

**Revival from Rubble: Community Resilience at UNESCO World Heritage Sites in
Kathmandu after 2015 Earthquake**

by

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Author's Declaration

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

I understand that my thesis may be made electronically available to the public.

Abstract

The April 25, 2015 “Gorkha Earthquake” wrecked Nepal with unprecedented disaster that turned into rubble many of the ancient monuments and historical buildings protected under UNESCO World Heritage in Kathmandu valley (UNESCO, n.d.). Communities living in their vicinity had very deep relation with them and promptly responded for their care. Despite volumes of studies on disaster, studies that focus on the role of sense of place in enhancing community resilience is greatly lacking (Cox & Perry, 2011).

The purpose of this qualitative case study was to explore perceptions of community resilience among the local communities living around the heritage sites of Kathmandu based on their sense of place after the 2015 earthquake. Kathmandu’s three Durbar squares (ancient palace courtyards)—Hanumandhoka, Patan, and Bhaktapur-- were selected as the sites of study because these sites and the monuments therein represent indigenous Newar communities’ ancient cultural history of Kathmandu, and each Durbar square is intricately linked with everyday life of local communities today as the cultural oases in the urban jungle of Kathmandu. The two-month long fieldwork conducted in the immediate aftermath of the earthquake (June-August 2015) focused on perspectives of 33 local residents who were involved in semi-structured interviews.

Study findings indicate that the Newar communities of Kathmandu’s Durbar squares have strong sense of place based on their historical, cultural and, economic relation with the place over millennia. Living in closely-knit cluster of settlements and participating collectively in their cultural practices such as festivals, dances, rituals, prayers, and performances steered through indigenous *guthi* system with Durbar squares being their focal point, Newars have built strong identity and attachment with their place. Also, these, Durbar squares are significant tourism destinations today. When the earthquake caused spectacular destruction of heritage monuments, resident communities suffered a phenomenal tragedy that their place suddenly became a non-place, devoid of its historical grandeur. However, during the ongoing emergency, they safeguarded the heritage landscape day and night, searched valuable artifacts and safely inventoried them, and even organized interaction programmes at the community level for heritage reconstruction. Their transformative, resilient thinking enabled them to seek ways to make the structures stronger to resist future earthquakes and successfully steward the linkage with the future generations. Rising from the rubble, communities exhibited their knowledge, skills and capacities to mitigate the disaster to preserve their valuable heritage. This community perception of resilience is solely enhanced by their sense of place that provided them hope, strength, and vision for earthquake resistant reconstruction of the heritage monuments and revival of associated intangible culture.

A unique exploration of very recent story of earthquake in Nepal, this study contributes to the role of sense of place for disaster community resilience. Exploration of community perception of resilience enhanced by the historical, spiritual and, cultural values associated with the place will help planners to seek ways to further strengthen local responses against future disasters; it will also help planners to devise appropriate heritage reconstruction initiatives driven by local stewardship, and formulate policy for responsible tourism operation to complement heritage revival.

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Dedication

This thesis is dedicated to my grandmother who left us on April 7, 2016 at the age of 90.

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List of Abbreviations

A D	Anno Domini
BDS	Bhaktapur Durbar Square
HDS	Hanumandhoka Durbar Square
KI	Key Informant
KVPT	Kathmandu Valley Preservation Trust
NGO	Non-Government Organization
PDS	Patan Durbar Square
SOP	Sense of Place
UNESCO	United Nations Educational, Scientific, and Cultural Organization
UNISDR	United Nations International Strategy for Disaster Reduction
VDC	Village Development Committee

CHAPTER ONE: INTRODUCTION

Major natural disasters not only cause devastating loss of human lives and properties but also disrupt the social and historical fabric of the places affected. The April 25, 2015 “Gorkha Earthquake”, hereafter mentioned as “the earthquake”, wrecked Nepal with unprecedented disaster that caught global attention. Lying in the active tectonic fault line of Indian and Eurasian plates, Nepal is a hot bed of earthquakes and has had a long history of devastating earthquakes documented since 1255 A. D. (Baruwal, 2014; Chaulagain et al., 2014; Dixit et al., 2013). The 7.8 magnitude earthquake on 25 April 2015 and hundreds of subsequent aftershocks in Nepal took at least 8693 lives, left 22,491 people injured, and damaged 510,929 built structures (Government of Nepal, 2015). It also caused losses equal to nearly half of Nepal’s gross domestic product affecting one third of the country’s population (Karnik, 2015; Sahanton, 2015).

Of particular importance, the quake also turned into rubble many of the ancient monuments and historical buildings protected under UNESCO World Heritage in Kathmandu valley, some of them being as ancient as 5th century A. D. (UNESCO, n. d.). Kathmandu’s seven UNESCO sites include three ancient royal courtyards (Hanumandhoka, Patan, and Bhaktapur), two Hindu temples (Pashupatinath and Changuarayan), and two Buddhist stupas (Swoyambhunath and Boudha), which collectively represent ancient heritage monuments that connect the present to ancient civilization that flourished in the valley. For the growing tourism industry in Nepal, these sites are substantially important since as many as 800 foreign visitors would visit each site on a day during busy seasons before the quake (Rai & Kaiman, 2015). Research on local communities’ perceptions of the significance of the heritage sites, the effects of the earthquake at

these sites, and community perspectives on heritage renewal provides insights to perceptions of community resilience and revival from the devastation.

There is extensive research on community disaster resilience. For instance, the effects of flood (Boon, 2014), wild fire (Cox & Perry, 2011; Rydgren, Økland & Hestmark, 2004), and earthquake (Binder, 2012; Jang, 2005; Liu & Mishna, 2012) have been of major concerns in academic studies. Some scholars have developed exclusive frameworks for assessing and measuring community resilience in case of earthquake (Bruneau et al., 2003; Mayunga, 2007; Norris, Stevens, B. Pfefferbaum, Wyche & R. L. Pfefferbaum et al., 2008). Other areas of research in community resilience are post disaster guidelines for risk reduction and resilience enhancement (Robinson, 2011; Sudiemer, Jaboyedoff & Jaquet, 2013; Tadele & Manyena, 2009), as well as the role of resilience in post disaster stress reduction (Buse, Burker & Bernacchio, 2013; Eyre, 2004; Kukihara, Yamawaki, Uchiyama, Arai & Horikawa, 2014; Walsh, 2007). In the context of Nepal, scholarly attention has been paid to earthquake hazard in greater Himalaya (Dixit et al., 2003; Pandey et al. 1999; Yeats et al., 1992), estimation of economic and property loss from future earthquakes particularly in Kathmandu (Chaulagain et al., 2014; Wyss, 2005), and the relationship between earthquake and heritage architecture (Jaishi et al., 2003; Shakya et al., 2014).

However, despite volumes of studies on disaster community resilience, studies focused on the role of place identity and attachment in enhancing community resilience are greatly lacking. A few scholars including Brown & Westaway (2011) and Cox & Perry (2011) have drawn attention to this lacuna in the literature. This study aims to fill that gap, as it explores local perspectives on

post-earthquake community resilience at UNESCO heritage sites of Kathmandu based on local perceptions of sense of place (SOP).

1.1 Research Purpose and Objectives

Understanding post-disaster resilience among the local communities that live in close proximity to the UNESCO heritage sites of Kathmandu requires an understanding of the SOP they have over their place. SOP consists of attitudes, beliefs, identity, and attachment people build living at a particular place over time (Steele, 1981). According to United Nations International Strategy for Disaster Reduction (UNISDR, 2009), community resilience refers to the ability of earthquake affected communities in Kathmandu to accommodate and recover from the loss of their cultural heritage following the earthquake, including their optimistic perceptions for the restoration of such heritage. Understanding the sense of loss of heritage monuments of global significance among local residents living around Kathmandu's UNESCO heritage provides insights about community capacity to confront and recuperate from the loss. The concept of SOP provides an interesting lens to examine the sense of loss and community capacity to cope with natural disasters. The purpose of this qualitative case study is to explore community resilience among local communities living around the UNESCO heritage sites of Kathmandu, based on local perceptions of SOP after the 2015 earthquake. The study also explores the effects of the earthquake on Kathmandu's cultural heritage, associated meanings of place and identity loss as well as local community perspectives on heritage renewal. The specific objectives of the study are:

- 1) To examine the significance of UNESCO heritage sites and their influence on SOP among the resident communities in Kathmandu.

- 2) To explore the effects of the earthquake on the heritage monuments, and community perceptions on the loss of this heritage.
- 3) To explore community capacity to recuperate from the losses, as well as their perceptions on heritage renewal from the perspective of community resilience.

Kathmandu's three Durbar squares (palace courtyards), Hanumandhoka, Patan, and Bhaktapur were selected as the sites of study (See chapter 3.1 for the details on study sites). These sites and the monuments therein represent indigenous Kathmandu Newar communities' (See 3.1.4 for detailed description of the Newars) ancient cultural history. Each Durbar square is intricately linked with everyday life of local communities, and function as cultural oases in the urban jungle of Kathmandu. Since Kathmandu's political establishment at the dawn of Christian era, the three Durbar squares have collectively preserved the most significant historical and cultural landmarks of Nepal. Their physical presence and their social, cultural and economic significance deeply influence everyday life of local residents living in and around these sites. Bearing an unbroken cultural continuum into the present time, these sites function vigorously in contemporary Nepal despite ruling dynasties that have come and gone (Hutt, 2010; Slusser, 1982). The Durbar squares, which are located in three different cities within the Kathmandu valley, were once vibrant city kingdoms boasting their cultural and historic art and architecture before they surrendered to modern Nepal. The durbar squares are famous for their rambling complex surrounded by temples and palaces of terracotta tiles all built in indigenous Newari architecture (Hutt, 2015). Many of the monuments in these squares, which were rebuilt after two major catastrophic earthquakes in 1833 and 1934, again turned into rubble caused by the 7.8 magnitude

earthquake on 25 April 2015 (UNESCO, n. d.). After the spectacular destruction of heritage monuments caused by the 2015 earthquake, it is important to explore local perspectives on the significance of cultural heritage and its future.

1.2 Significance of the Study

The study is a unique exploration of the very recent story of a major earthquake in Nepal, its effect on heritage monuments, and its repercussions on Nepal's tourism. The study aims to contribute to existing literature on SOP associated with cultural heritage. The study is also significant in its exploration of the role of SOP for disaster community resilience. Earthquake destruction of cultural heritage monuments in Kathmandu and elsewhere in Nepal, and their reconstruction, is a crucial challenge. Planners can draw upon the community as a repository of knowledge and skills to localize heritage reconstruction projects and hand over responsibilities to local communities who may have strong sense of identity and attachment to the monuments due to their ancestral cultural inheritance. In addition, the study will explore relevant issues for future research on Nepal earthquake, disaster community resilience and heritage reconstruction.

1.3 Structure of Thesis

The thesis commences with a brief introduction of the study context, overall research purpose and specific objectives. Chapter Two synthesizes literature on SOP and resilience in disaster studies, tracing its development over time. The first part summarizes the literature on SOP and its two constructs, identity and attachment. This literature review cites relevant empirical studies, especially in the context of people's history and culture. The second part draws on literature relevant to socio-ecological resilience, and resilience as discussed in developmental psychology

to address disaster resilience based on history and culture of Kathmandu's communities. The review of literature finally summarizes the findings preparing a general framework for the study.

Chapter Three provides information on the study sites, followed by a description of methods and their justification. This chapter describes the fieldwork, details of informant recruitment and their characteristics, multiple data collection techniques, procedures employed for data synthesis, and data analysis addressing the validity, ethical issues as well as study limitations.

Chapter Four presents the results relevant to research objectives, with first person voices as appropriate. The results focus on SOP, community perception of loss of place and identity, and community perspectives on reconstruction and heritage renewal. Chapter Five provides a discussion of the main findings, in line with existing literature on SOP and community resilience.

The final chapter concludes the study summarizing the main research findings, followed by a brief discussion of their implications for scholarly research and practice. The implications of study findings for reconstruction of heritage monuments are also discussed.

CHAPTER TWO: LITERATURE REVIEW

Exploration of perceptions of community resilience at Kathmandu's UNESCO heritage sites requires an understanding of sense of place of indigenous Newar people who have inhabited the valley since historical times. Scholars have noted that deeply rooted people-place relationships generate a spirit of place that colors resident's values and everyday life (Hay, 1998; Norberg-Schultz, 1980). The heritage monuments and associated intangible culture existing therein, in this regard, plays a significant role in shaping resident communities' feelings and behaviors in the aftermath of earthquake-induced devastation of heritage monuments. How these communities carry their traditional values, beliefs, and customs based on their ancestral legacy determines their resilience associated with heritage renewal. The literature summarized below includes research on SOP with a focus on culture and heritage. It is argued that SOP is relevant to understanding community resilience. Therefore, the latter part of the review concentrates on the development of the concept of resilience in disaster studies. The discussion on community resilience in disaster studies is set in the context of local Nepalese history, culture and architecture. The chapter ends with a framework of analysis developed and then applied in this study.

2.1 Sense of Place

SOP has been conceptualized as the relationship between people and places they experience. Tuan (1979) has provided a much cited definition of SOP when he expressed that place remains central in understanding human emotions and relationships. SOP is a multidimensional perception and experience that people individually, and as a community, establish through living at a certain place over time. It is "intrinsically and perhaps mystically connected to the heart, to

multi-sensory perception, and to the broad spectrum of emotions that color [human] lives” (Sinclair, 2005, p. 7). In this regard SOP is embedded to people’s sub-consciousness as the unique attribute and distinctive perception make it more familiar, dependent on human communities, and their sum of life experiences (Hay, 1998; Steele, 1981). Manzo and Perkins (2006) considered three basic dimensions of how people as individual and neighbors interact and interpret their community: Cognitive, affective, and behavioral dimensions. The cognitive dimension concerns place and community identity, while the affective dimension includes one’s emotional relationship to a particular place, and a behavioral dimension bears individual and community interaction with place. Projection of individual and collective identity and attachment in relation to particular place determines people’s reactions during adverse situations.

A “holistic, emphatic, intuitive approach” is required to understand comprehensively how people are locally set in their everyday “lifeworlds” infused with individualized personal feelings, memories, and meanings as “collective, gestalt wholes” (Hay, 1998, p. 160). Such deeply rooted human-place experience of people emerges from the connection of SOP with the concept of *genius loci* (Norberg-Schulz, 1980). *Genius loci* is a Latin term initially translated in the 18th century to describe the appreciation of the aesthetic beauty of rural landscape (Jackson, 1995; Jiven & Larkham, 2003). In the ancient Roman times, people believed that places inhabited a *genius loci* or spirit of place considered a local divinity; they thought it to be of great value to come to terms with the genius of the locality where they lived by embodying spiritual and practical values to the place (Sandalack, 2005). Influential American landscape writer J. B. Jackson (1995, pp. 157-58) described the concept of SOP as:

It is an awkward and ambiguous translation of the Latin term *genius loci*. In classical times it means not so much the place itself as the guardian divinity of that place. . . . in the eighteenth century the Latin phrase was usually translated as ‘the genius of a place’, meaning its influence. . . . We now use the current version to describe the *atmosphere* to a place, (and) the quality of its *environment*. Nevertheless, we recognize that certain localities have an attraction which gives us a certain indefinable sense of well-being and (to) which we want to return to, time and again (Italics original).

Genius loci is very close to the character of a place that people inhabit. As such it embodies both the environmental atmosphere as well as the values and culture that people bear living in a place that has certain history. Cozen (1966) states that “in course of time, the landscape . . . acquires its specific *genius loci*, its culture--and history—conditioned character which commonly reflects not only the work and aspirations of the society at present occupancy but also that of its precursors in the area” (Jiven & Larkham, 2003, p. 69). Norwegian architect Christian Norberg-Schultz theorized the concept of *genius loci* in the early 1960s in an investigation of the psychology of architecture and explored the character of place in reference to townscape having its skyline of horizontally expanding silhouette of urban buildings (Jiven & Larkham, 2003). In *Genius Loci: Towards a Phenomenology of Architecture*, Norberg-Schulz (1980) conceptualized *genius loci* as representing the sense people conceive of a place about its physical and symbolic values coupled with human environment. The built form and the symbolic meaning of a settlement are central to the concept of *genius loci* as these bear a community’s cultural perception of a place. In this sense, people’s collective identity, people as a community, and their history are closely associated with *genius loci*.

SOP has been a study of scholarly significance among human geographers, architects and environmental psychologists. Their approaches to SOP, however, are varied. Human geographers perceive SOP as a person's personal connection with place accumulated over years of living and involvement in a community. Such geographers have attempted to understand SOP through three dimensions—perceptual realm of awareness, attitudes, and memories; the emotional realm of feelings, preferences, and values; and the experiential realm of bodily and sensory perceptions, contacts, and journeys as they attempt to reach the “core and essence of the people/place relationship” (Hay, 1998, p. 160). Architects have focused on the layout of the landscapes and built forms that remain central to arouse certain aesthetic affinity to people (Jackson, 1995; Norberg-Schultz, 1980). Environmental psychologists focus on the appeal of landscape on people to develop certain fondness and desire to be at such place (Tuan, 1979). Theoretically, phenomenological and humanistic perspectives of place explore deeper subjective and emotional significance that emerge as a result of human existence and their relationship to a place. Psychometrics explores the relationship between human psyche and physical environment, generating a human psychological attribute called place attachment. Constructivism views SOP as socially constructed phenomenon (Jorgensen & Stedman, 2001; Morgan, 2010). For the purpose of this research, SOP is conceptualized as the sum of historical, cultural, spiritual, religious, economic and everyday attributes that indigenous communities develop for their place, and the tangible and intangible heritage associated with it.

People's ties to their friends and families, their ties to special places, their length of residence, their involvement in the local community (Hay, 1998) as well as tangible and intangible cultural

heritage they build over time are among the main reasons for them to develop their bonds to a place. The power of place, according to Paul Tillich (1959), is great and it is the foundation of any community to have their own place that provides them reality, presence, and the power of living to feed their body and soul (cited in Jackson, 1995 p. 26). For Firtz Steele (1981), SOP allows people to feel being at home where they can remain secure and happy. In this sense, place provides an aura of control over people's life. Further, as Hay (1998, p. 162) argued, SOP is a blend of people's sensing, bonding and contextual phenomenon that is imbedded in the subconscious of the bearer and noticed by an outsider:

Both a **sensing** element, affected by perceptual, spatial, and structural constraints, and a **bonding** element, involving emotions, motives, insider traits, and taken-for-grantedness, come together to form a sense of place. The effect on people who have developed a strong sense of place is most apparent to an outsider. The people appear secure, rooted, at ease, territorial, and full of self-confidence. Their sense of belonging, satisfaction, and familiarity with their place shows; the benefits of living on a whole, **contextual** life are evident in their easy manner. Their place is a "given". They concern themselves with their work, families, and leisure pursuits instead. "Place" to them is merely the locus where their lives "take place" (bold in original).

2.1.1 Place Identity

SOP and place identity are related concepts, with place identity referring more specifically to people's personal and community identity in association with the place they live. In "The City and Self-identity" Harold M. Proshansky (1978) conceptualized place identity as cognitive dimension of individual's and communities' beliefs, perceptions or thoughts that the self reflects

based upon particular spatial and cultural setting. Proshansky (1978, p. 155-156) interpreted place identity as follows:

By place-identity we mean those dimensions of self that define the individual's personal identity in relation to the physical [and cultural] environment by means of a complex pattern of conscious and unconscious ideas, beliefs, preferences, feelings, values, goals, and behavioral tendencies and skills relevant to this environment. It can be properly and correctly argued that for each of the role-related specific identities of a person, there are physical dimensions and characteristics. . . . This person-physical setting interaction process continues, of course, throughout the life cycle [and with it] other subidentities of the individual, the organization of ideas, feelings, preferences, values, memories, and attitudes about these environments represents a psychological structure which is both enduring and changing (Italics in original).

According to Proshansky (1978), there are three dimensions of place identity:

- 1) Cognitive-descriptive dimension: These are the contents of a person's place identity and include images and memories of places, conceptual ideas of size, distance, color or other physical attributes. Consciousness and beliefs about how, where and why individuals use certain physical environment also come under it.
- 2) Affective-evaluative dimension: Place identity also "entail[s] a cluster of affective-evaluative dimensions related to specific physical settings and their substantive and structural properties" (Proshansky 1978, p. 158) bearing a range of feelings and preferences. Artistic attributes such as colors, sounds, lights, shapes and other designs that are imbued in real world appearances are included under this dimension because

they enhance aesthetic experience of a place. Ancient architecture of heritage sites may fall in this section. People often speak of “my city” or “my favourite place” due to their affective-evaluative dimension of their place identity.

- 3) Physical setting-role-related dimension: Place can take the role of physical environment for people (Ngo & Brklacich, 2014). People’s roles and behaviors are also shaped by the physical setting which is “represented by expectations, beliefs, feelings, ideas, and aspirations about this setting” (Proshansky 1978, p. 159). Who the person becomes in the role, and what physical setting socializations the person experiences in a role, also contributes to place identity.

Sandalack (2005) argued that the location, shape, color, or an arrangement of the environment of a place remain in people’s coherent mental pattern to determine their identity. Such identity also gives emotional security and comfort to people to make them feel competent to continue their life in their environment. Place identity is associated with being friend to the environment one lives in (Sandalack, 2005).

2.1.2 Place Attachment

Place attachment refers to individual or collective affective, emotional, and psychological bonds with places (Manzo & Perkins, 2006; Milligan, 1998). As a subjective phenomenon, it is easy to understand but hard to define (Morgan, 2010). Yi-Fu Tuan (1974, 1977) is among the pioneers investigating how people develop attachment to places. According to him, the undifferentiated “space” turns into “place” when people know it better and attach to the place with “steady accretion of sentiment” and experiences over time (Tuan, 1974, p. 33). When a place becomes a site of “people’s interest, concerns, influence, attention, attraction, and enjoyment,” it causes

them to have distinct “feelings, moods, responses, constraints, achievements, survival, and pleasure,” which are the indicators of place attachment (Steele, 1981, p. 9). A place cannot be the site of attachment until the place develops sufficient emotional link (Milligan, 1998). Over the course of a life span, a person establishes a mental representation of their own self in association to their place, for instance, as their ‘home’ or a site of their community’s cultural and architectural landscape (Giuliani, 1991). In this regard, place attachment emerges through people’s interaction with a place, both from the interactional past (memories of the past) and potential interactions likely to occur in the future (Milligan, 1998).

Researchers have used both qualitative and quantitative means to assess people’s place attachment. Morgan (2010) presented a developmental theory of place attachment based on childhood place experiences. After qualitative analysis of seven middle-aged adults’ memories of childhood place experiences, the author concluded that positive affective experiences gained at a place during childhood generates an unconscious internal bond called place attachment. The author’s findings also showed that place attachment, which was developed by adult’s emotional connection to place, was generated by love, grief, pleasure, security, and identity associated with the place they grew up in. Similarly, Giuliani (1991) explored people’s affective bonds towards their home through in-depth interviews and survey of 56 inhabitants of Rome. The inhabitants’ bond with their home or surroundings was individually different, and was defined by (i) the state of psychological comfort experienced by the subject due to the presence and accessibility of the vicinity, and alternatively (ii) by the feelings of distress caused by absence, distance or inaccessibility of the locality they had been attached to. Using an alternative approach, Brown and Raymond (2007) quantitatively evaluated place attachment using psychometric and scale

based measures: survey data obtained from the visitors and residents of Otaways region of Victoria, Australia showed aesthetic, economic, recreational, spiritual, and therapeutic values have special importance in determining place attachment.

2.1.3 Sense of Place, Culture, and Heritage

Communities, by their spatial, cultural, and historical characteristics, develop their unique SOP, the nature of which is communal. In the words of Riger and Lavrakas (1981), “bondedness” and “rootedness” generates SOP for communities because feelings of being in one’s neighborhood helps to develop emotional bonds with the neighborhood. Hay (1998) noted that culture and ancestry are important in New Zealand Maori communities’ development of rootedness and affective feelings of place. Maoris’ many years of residence had generated a SOP that functioned as a centre of continuity of living. From the comfort of such a center, Hay noted, one finds personal meaning as an extension of self that facilitates creation and perpetuation of culture. Culturally, bonds to a place are expressed by artistic forms such as songs, folk stories, and vernacular architecture (Hay, 1998).

The historical, physical, and symbolic characteristics of heritage monuments or facilities represent some aspect of local, regional or national culture (Norberg-Schulz, 1980). Shamsuddin and Ujang (2008) examined the SOP in the context of traditional, historical streets of the city centre of Kuala Lumpur, Malaysia. The users of the traditional streets in Malaysia exhibited strong SOP shaped by socio-cultural characteristics having functional and emotional significance. Functionally, the streets met people’s goals and needs providing conditions to support desired activities, and emotionally, the streets remained important as the settings of their

daily activities bearing a sense of pride and belongingness. Residents regarded the streets as very important and meaningful for their economic activities bearing cultural diversity and historical significance (Samasuddin & Ujang, 2008).

Firtz Steele, in his seminal book *The Sense of Place* (1981), developed the concept of SOP further by stating that places shape human history. He contended that people form their attitudes from multiple meanings emanated from the place they live in. He further argued that people also ascribe religious significance to a place. Steele noted that place also shapes the character of its residents to behave in a certain way. The interconnection between place and people grows so adaptable that they cannot help change the place to give continuity to their identity, culture, history, and civilization (Settle, 1981). People take the setting of their living areas as their whole world that represents their cosmology (Steele, 1981). In his Ph. D. dissertation entitled *Sense of Place: Cross-cultural Perspectives from Banks Peninsula, New Zealand*, Hay (1990, p. iii) described how tribal Maori community have created their cultural, community cosmology:

Maori are linked to the earth through cosmology, with creation myths centering them within the cosmos in one particular place. The tribal land upon which Maori dwell is both respected and loved; Maori belong to the earth, especially around their *marae* (meeting house and grounds), referring to that location as *papa kainga* (home ground) and their "place to stand" (*turangawaewae*). Maori sense of place is culturally developed through tribal rituals, and reinforced through place names, carved designs, and legends which remind them of their heritage.

One key component of SOP is the “presence and the preservation of locally distinct features” (Hargeaves, 2004, p. 55). Such distinct features are carried by cultural heritage monuments and buildings. The proximity of such features to people’s living patterns is also important because “the higher the proportion of social content and the more integrated into the layout of residential environments, the more pervasive and influential will be the sense of place” (Hargeaves, 2004, p. 55). In Northern Scotland, Hargeaves found in his ethnographic study, communities formed a habitual movement of going around certain objects of significance and over time it generated an intimate relation, a SOP, which fostered social sustainability. As such, community awareness of place formed habitual pattern of movement that fostered social identity associated with the built structures. Daily or periodic functional contact with place is necessary to enhance SOP, just as contact is necessary to human relationships (Hay, 1998).

Communities over time represent their culture and values in their built forms, which guide residents’ lifestyles and represent their nostalgic sentiment (Hargeaves, 2004 p. 50). Built structures remain deeply rooted in community feelings and sentiments as Tuan (1977, pp. 106-107) elaborated:

Once achieved, architectural form is an environment for men. How does it then influence human feeling and consciousness? The analogy of language throws light on the question. Words contain and intensify feeling. Without words feeling reaches a momentary peak and quickly dissipates. Perhaps one reason why animal emotion do (*sic*) not reach the intensity and duration of human ones is that animals have no language to hold emotions so that they can either grow or fester. The built environment, like language, has the power

to define and refine sensibility. It can sharpen and enlarge consciousness. Without architecture feeling about space must remain diffuse and fleeting.

SOP bears historical and living identity (Sandalack, 2005). The former is based on past events and remains important for the collectivity while the living identity is reflected through day-to-day life and is the sum of historical elements. Living identity makes it possible for people to continue the existential life cycle and the progress of development. Norborg-Schulz (1980) asserted that communities need functioning built structures, symbols and works of art that represent life situations, art, and architecture to serve to hold and express the meaningfulness of such situations. Psychological, social, symbolic and emotional attachment to a place becomes so important and central to life that these elements follow wherever people move. Mazumdar et al. (2000) found that in the ethnic enclave of Vietnamese refugees in Little Saigon, California, the immigrants have built structures that resemble their original place of origin in Vietnam. These cultural architectural forms are immigrant's prime foci where they meet for camaraderie, festival celebrations and cultural performances in their attempt to revive the loss of their place in the new world. Little Saigon for Vietnamese-Americans embodies their SOP that sustains community identity and social relations (Mazumdar et al., 2000).

The bond between communities and their location remains "(a) very powerful one in which each reinforces the identity of the other (and) in which the landscape is very much an expression of communally held beliefs and values and of interpersonal involvements" (Relph, 1976 p. 35). Architectural heritage, in this sense, helps enhance sense of community in which people, their networks, their interaction, their celebrations of cultural and religious events all cumulatively add

to their solidarity and identity, as Mazumdar et al. (2000) contended. Cultural manifestations, both tangible and intangible, reinforce SOP. Thus, Rochberg-Halton (1986, p. 191) pointed:

The buildings, places, and institutions of the [community] are not merely static entities or inert objects; or even simply structural codes, but are signs that live objectively in the transactions people have with them. They signify history, relationships, current practices and goals; communicate a sense of place and participation; and grow through cultivation, in the minds of those who care for and about them[.]

Empirical evidence indicates that SOP is instrumental in community resilience after the disruption of place attachment and identity caused by natural disasters. In-depth interviews with the residents of the Ninth Ward in New Orleans who returned after Hurricane Katrina provided narratives of strong SOP. New Orleans possessed a “unique bundle of characteristics that, when taken together, cannot be found or replicated anywhere” (Chamlee-Wright & Storr, 2009, p. 615). Without being asked openly, 84% of interviewees who returned to their place attributed a bundle of place characteristics that made New Orleans a unique place. Strong place identity and attachment brought inhabitants back to their impoverished neighborhood (Chamlee-Wright & Storr, 2009) because no other substitute place could replace their original place of residence. Similarly, SOP was important as a coping strategy for people who lost homes in the 2003 Bam earthquake in Iran: 184 households surveyed ascribed memories of lost houses and positive reminders of place as a stimulus to restoring their house and surrounding setting (Kamani-Fard, Hamdan Ahmed, & Ramaz Ossen, 2012). Boon et al. (2012) used a mixed-method approach to examine community resilience in four Queensland, Australia communities that were recovering from natural disasters. The authors aimed to identify common beliefs and behaviors these

communities experienced while coping with the unexpected, in order to access the degree of resilience of disaster afflicted communities. Results showed that the strongest and most direct predictor of community resilience was SOP. In another similar study, Boon (2014) explored a flood impacted rural Australian community in Ingham to identify factors that residents perceived supporting community resilience to disaster. What supported the community to maintain stability, and function well in the post-disaster phase was their social connections and SOP that held them from their desire to relocate. Disaster resilience was a “trait and a process developed through social relations” imbued by “unique community characteristics” (Boon et al., 2012, p. 2). For the disaster afflicted communities, therefore, SOP is a strong source of capital enhancing resilience.

2.2 Resilience

2.2.1 Conceptual Development of Resilience

In response to natural disaster, resilience is the latest concept that has evolved from its various predecessors in the past including early recovery, capacity building, disaster risk and vulnerability reduction, sustainable development, and lately resilience (Fan, 2013). The term “resilience” comes from Latin meaning “bounce back” and in English language its early use in Mechanics referred to the property of a material such as metal to come back to its normal form when it is bent (Alexander, 2013; Zhou et al., 2010). Recently, Alexander (2013) traced the etymological journey of the term in an attempt to reconcile divergent views of what resilience means. The etymological history of millennia has made resilience a multi-faceted concept which “can be used with varied degrees of formality and meaning, stretching from a simple descriptor of a property to something that conveys a whole body of thought”, adaptable to varieties of uses

and contexts (Alexandar, 2013 p. 2713). Although Francis Bacon used the term for the first time, it seriously appeared in mechanics as early as 1858, made its way to psychology in the 1940s, appeared in natural ecology in 1970s, and in human ecology in 1990s with its core meaning remaining “to bounce back” (Alexander, 2013).

In the field of disaster, resilience is conceptualized as the quality of people or a group of people to positively respond to the effects of external shocks so that pre-disaster stability could be regained, future vulnerabilities would be reduced, and communities could move forward to create better conditions to tackle future disasters appropriately (Folke, 2006; Manyena, 2006). Lately, the concept of disaster resilience has been a matter of wider interest among researchers especially following the adoption of the *Hyogo Framework for Action 2005-2015: Building the resilience of nations and communities to disasters* (Manyena, 2006). Studies on disaster resilience are concentrated on various typologies including organizational resilience, technological resilience, community resilience, individual resilience, hazard specific resilience, and specific resilience capabilities (Rogers, 2015). For the purposes of inquiry on community resilience in this study, a convergence of socio-ecological resilience and resilience in developmental psychology is deemed useful. It is necessary to find common ground on these two strands of resilience because community resilience, following the 2015 earthquake in Kathmandu, depends more on local residents’ relation with their place rather than on natural resources (Berks & Ross, 2013).

In the ecological system, Holling (1973) is credited as probably the first to use and define the concept of resilience with the publication of *Resilience and the Stability of Ecological Systems* in

which he defined the term as the ability of an ecosystem to absorb changes and still persist. He also compared resilience with stability, the ability of a system to return to equilibrium after disturbance, and concluded resilience and stability as important properties of ecosystem. He revisited the concept later and conceptualized resilience as a buffer capacity of a system to mitigate perturbation that can be absorbed (Holling et al., 1995). Folke (2006) asserted, in the stream of ecology, resilience addressed the dynamics of an ecosystem where human actions remained instrumental in understanding the ecosystem's capacity to reorient its services. Such perspective of ecological resilience developed from observations as humans attempted to understand adaptive mechanisms of ecosystem process. When human beings are the subject of resilience, it is necessary to understand that they live as a part of systems that have to deal with the losses and impacts of the external shocks (Manyena, 2006).

Although there are differences in the behaviors of ecological and social resilience (Adger, 2000), these can be integrated while conceptualizing disaster community resilience. This implies resilient communities should also have capacities to absorb shocks and recover to function smoothly again (Manyena, 2006). Literature on ecological resilience is “full of illustrations of societies, cities, communities and habitats, inter alia, as complex dynamic system in the process of adaptation” with several disciplines such as human geography and human ecology hinting at the “parallels between ecosystem resilience and social resilience” (Manyena, 2006, p. 444). When consideration of human dimension and social system became inevitable for resilience, it made its transition from natural ecology to human ecology at the end of twentieth century (Adger, 2000). Such endeavor drew attention from geographers and social scientists giving rise to a distinct field

of research understood as social-ecological systems, generating growing body of literature (Folke, 2006).

Recent development in resilience thinking in social-ecological system focuses on dynamic developments of adaptability and transformability (Folke et al., 2010). Adaptability refers to the capacity of a system to adjust to changing external and internal phenomena to allow positive development to maintain stability, while transformability represents the system's capacity to move into new path of development after disturbances. Transformability is important in resilience thinking because a resilient system doesn't merely respond to challenge by its usual form but adapts in better ways to adjust in the new environmental constraints (Kirmayer et al., 2009). Social-ecological perspective focusses on system and views individuals in their social systems such as families. It is necessary to understand social processes, social memory, social networks that govern social ecosystem (Folke, 2006). Drawing its recent development, Kirmayer and colleagues (2009, p. 72) noted:

The ecosystemic view of individuals as embedded in a web of complex, interacting relationships has given rise to a new interest in community resilience. This work recognizes that resilience is a "clustered" phenomenon that is not randomly distributed among individuals in a society or community, but occurs in groups of people located in a web of meaningful relationships. The individual, family unit, community, and larger environment are interconnected, and factors from each realm contribute to processes that can counter stress and adversity.

Analysing various definitions of resilience, it is clear that ecological views focus on a systems perspective, long term resilience, adaptation approach, and sustainability (Manyena, 2006). From

the foregoing discussion, it also emerges that social and ecological resilience has developed through a “synergistic and coevolutionary relationship” (Adger, 2000, p. 350). However, the concept of resilience in this strand is at a more rudimentary phase at local, community level (Berks & Ross, 2013); therefore, it is appropriate to tap useful ideas from resilience in developmental psychology.

Studies of resilience evolved in the field of psychology and psychiatry through the works of Norman Garmezy, Emmy Werner and Ruth Smith from the 1940s through their efforts to understand psychopathological development, especially in the study of children ‘at risk’ of psychological disorders (Manyena, 2006). In developmental psychology, resilience refers to (i) the “strength, resistance or invulnerability that prevents the individual from getting sick; (ii) a capacity to heal, recover and return to functioning quickly and fully; or (iii) an ability to adopt, change course, and find a new way” to move forward in spite of impairment (Kirmayer et al., 2009, p. 67). As such it focuses more on the internal traits such as feelings and psychology of people to positively respond to catastrophic events. A new strand of literature is growing comprehensively to consider such social and cultural elements of resilience in this stream (Kirmayer et al., 2009). Berks and Ross (2013, p. 17) assert that resilience in the developmental psychology strand has wider applicability for cases that do not involve natural resource dependence or cases that “require analysis of disasters and other impacts which are not primarily about the natural environment.”

An integration of social-ecological and psychological strands of resilience provides a broader perspective to understand community resilience in the context of the earthquake’s impacts on

Kathmandu Valley's heritage sites. Such an integrative view provides an appropriate focus for resilience study at community level which is relatively neglected by researchers adopting a systems perspective. According to Berks and Ross (2013, p. 5) a synergy of two strands of resilience provides a healthy opportunity to understand community resilience because:

The first strand treats resilience as a systems concept, dealing with adaptive relationships and learning in social–ecological systems across nested levels, with attention to feedbacks, nonlinearity, unpredictability, scale, renewal cycles, drivers, system memory, disturbance events, and windows of opportunity. The second strand emphasizes identifying and developing community strengths, and building resilience through agency and self-organization, with attention to people–place connections, values and beliefs, knowledge and learning, social networks, collaborative governance, economic diversification, infrastructure, leadership, and outlook.

2.2.2 Community Resilience

Don Geiss introduced the concept of disaster-resistant community in 1994 at the Central United States Earthquake Consortium to encourage community participation and cooperation to face disaster adversities (Chou & Wu, 2014). According to Gillard (2007), a resilient community adopts the safest possible means of dealing with the disaster impacts and possesses ability to sustain the damages incurred by disaster by restoring its pre-disaster stability despite massive shocks (See Figure 1). A resilient community functions in multiple ways as an affective unit, as a functional unit, as a network of relations as well as the context and agent of change (Chaskin, 2008). Community as a context reflects ecological perspective and considers “communities as local environments providing a set of risk and protective factors that have an influence on the

well-being of community members” whereas as an agent community focuses “on the extent to which communities exhibit resilience themselves” (Chaskin, 2008, p. 66). Locally learned adaptation and adjustment mechanisms at individual, group and organizational level of community and its unique cultural resources play key role in enhancing resilience (Berks & Ross, 2013; Kirmayer et al, 2009).

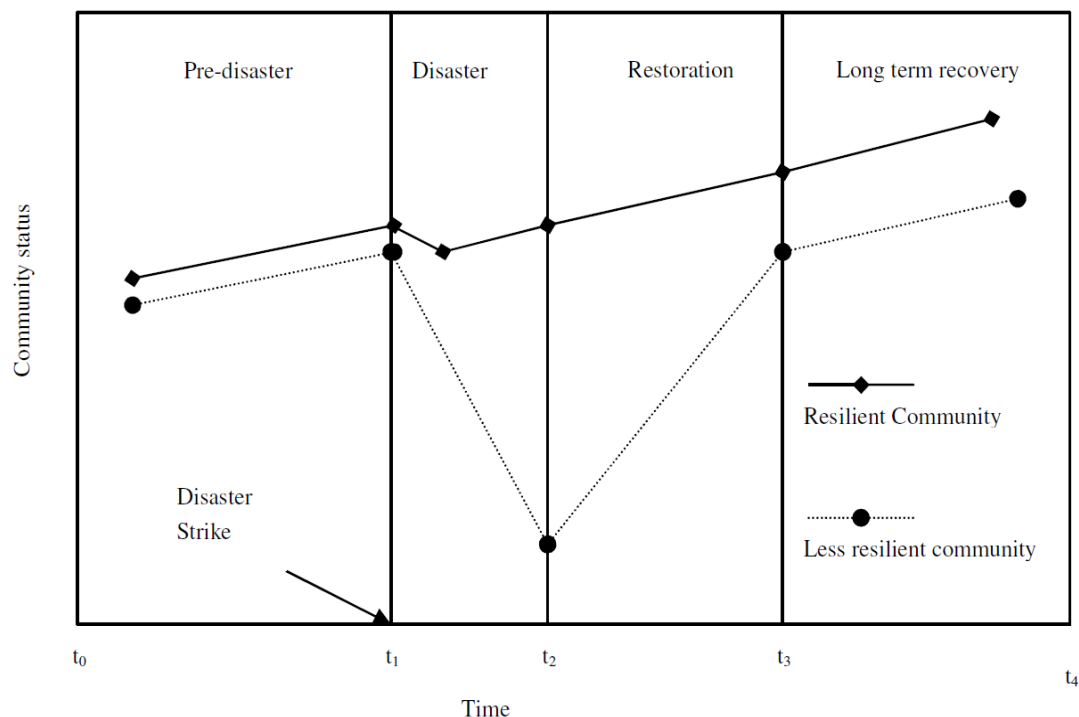


Figure 1: A hypothetical trajectory of resilient and less resilient community. Source: Mayunga, 2007, p. 5.

Scholars and research communities have tried to define resilience, especially community resilience, as suitable to the type of disaster they concentrate, level of human system(s) they approach, and the subject of inquiry they focus in their study. A number of definitions of disaster resilience are available (See Table 1). For example, Zhou et al. (2010) found twenty-eight

definitions of community resilience while Norris et al. (2008) cite twenty-one such definitions.

The most comprehensive definition is provided by UNISDR (2009, p. 24):

The ability of a system, community or society exposed to hazards to resist, absorb, accommodate to and recover from the effects of a hazard in a timely and efficient manner, including through the restoration of its essential basic structures and functions.

Table 1: Definitions of community resilience. Source: Norris et al., 2008, p. 129.

Author(s), year	Definition of community resilience
Adger, 2000	The ability of communities to withstand external shocks to their social infrastructure
Bruneau, 2003	The ability of social units to mitigate hazards, contain the effects of disasters when they occur, and carry out recovery activities in ways that minimize social disruption and mitigate the effects of future earthquakes
Godschalk, 2003	A sustainable network of physical systems and human communities, capable of managing extreme events, during disaster, both must be able to survive and function under extreme stress
Paton, 2000	The ability to bounce back and to use physical and economic resources effectively to aid recovery following exposure to hazards
Ganor, 2003	The ability of individuals and communities to deal with a state of continuous, long term stress; the ability to find unknown inner strengths and resources in order to cope effectively. The measure of adaptation and flexibility
Ahmed, 2004	The development of material, physical, social-political, socio-cultural, and psychological resources that promote safety of residents and buffer adversity
Coles, 2004	A community's capacities, skills, and knowledge that allow it to participate fully in recovery from disasters
Pfefferbaum, 2005	The ability of community members to take meaningful, deliberate, collective action to remedy the impact of a problem, including the ability to interpret the environment, intervene, and move on
Egeland, 1993	The capacity for successful adaptation, positive functioning, or competence . . . despite high-risk status, chronic stress, or following prolonged or severe trauma
Butler, 2007	Good adaptation under extenuating circumstances; a recovery trajectory that returns to baseline functioning following a challenge.

In the context of the present study, community resilience refers to the local communities' endeavors to resist, absorb, accommodate to and recover from the loss of their ancient heritage monuments and associated intangible culture (UNISDR, 2009), as well as their perceptions on heritage renewal on the basis of their SOP (identity and attachment).

2.2.3 Heritage, Disaster, and Community Resilience

Heritage places have always been the medium through which people's history has been documented. Both tangible and intangible facets of heritage have borne people's memories forward like two sides of the same coin. Heritage is "a coefficient of society, which is understood through experience, learnt through performance, and represented through 'activities' formed in the present maintaining and developing the identity of place and preserving its spirit" and it is not just a picturesque image of the past (Kamel-Ehmed, 2015, p. 67). Cultural activities are typically "created and developed in the past and transformed, probably developed, into the present through successive generations shaping characteristics and identity of communities" (Kamel-Ehmed, 2015, p 74). Therefore, community identities are attached to their cultural places. Cultural heritage today encompasses a wider arena that shape communities and their identities:

Cultural heritage today encompasses broad array of places such as historic cities, living cultural landscapes, gardens Moreover, collections of movable items within sites, museums, historic buildings, libraries and archives testify not only to the lifestyles of the royalty and achievements of great artists, but also to the everyday lives of ordinary people. At the same time, intangibles such as knowledge, beliefs and value systems are fundamental aspects of heritage that have a powerful influence on people's daily choices

and behaviors. Today, as in the past, cultural heritage continues to perform its role as source of meaning and identity for communities (Jigyasu, 2015, p. 3).

Both tangible and intangible cultural heritage suffer damage during natural disasters. Such disasters cause the loss of irreplaceable wealth of cultural assets and leave the communities impoverished. For example, the earthquake in Assisi and Yunan provinces in China, flood in East Germany and Central American hurricane in 1996 and 1997 respectively caused a huge toll on cultural heritage (Taboroff, 2000). Similarly, the earthquake in 2012 damaged the ancient city of Ferrara in Italy while in 2013 it destroyed historic Bohol churches in the Philippines. Likewise, flood in 2011 and 2014 inundated World Heritage Site of Ayutthaya in Thailand, and historic towns of Serbia and Croatia in Eastern Europe. Devastating fire in China in 2013 and 2014 damaged the historic fabric of the World Heritage City of Lijiang (Jigyasu, 2015). Chen (2012) noted that the 2008 Wenchuan earthquake in China damaged minority cultural heritage including ancient watchtowers and watch-houses of Qiang villages in Southwest China. Important to the ancient history of Han, these sites were the symbol of cultural identity for locals (Chen, 2012). Such disasters cause direct and indirect damage to cultural heritage monuments leading to structural collapse of buildings and their contents with earthquake damages being particularly devastating (Taboroff, 2000). Earthquake in archaeological sites not only damages individual monuments but also causes significant disruption to the landscape features besides breaking down complex network of local knowledge as represented in community's built structures (Robinson, 2011; Taboroff, 2000).

Empirical evidence claims that traditional cultural values and norms associated with place contribute to community disaster resilience. For instance, Liu and Mishna (2014) found that Taiwanese culture associated with women's gender roles helped them successfully rebuild their family lives within five years after the 1999 Taiwan earthquake. The authors concluded that cultural values can serve as coping resources among resilient communities. Likewise, after the 2009 Pacific earthquake and tsunami in American Samoa, local response to the physical resilience was prompt and efficient that reflected high level of core cultural competence (Binder, 2012). In their model for community resilience based on cultural values in the context of Latino and Mexican communities in US, Clatus-Ehlers and Lopez Levi (2002) highlighted the community structures and cultural values associated with family as significant buffer for community resilience. For them, important cultural resilience factors were: family (*familismo*), respect of the elder family members and senior people (*respeto*), and value of relationship (*personalismo*). The authors stressed on the "importance of understanding the context of someone else's worldview" (p. 276-77) in order to determine appropriate intervention strategies for community resilience. Similarly, local artisans and local architecture also helps to restore the affected heritage structures.

Local smiths and traditional architecture can work as the foundation of resilience during the heritage reconstruction after disasters because they help in heritage reconstruction and conservation (Chen, 2012). Robinson (2011) analysed the cultural resilience of a disaster-struck community in Leogane, Haiti, after 2010 earthquake, as they ventured to reconstruct cultural marketplace of Legone—the heart of local communities' architectural and cultural history. "[L]ocally driven collaborative design for post disaster rebuilding" of the cultural market

identified “the local strength of the arts and music culture and [addressed] community concerns such as connectivity and vulnerability reduction” (Robinson, 2011, p. 76-77) thereby bolstering communities’ cultural resiliency. In the same vein, when the 2003 Bam earthquake destroyed historical buildings and cultural landscape of the largest architectural complex of the world in Iran, communities mobilized their “new opportunities for the city’s exceptional cultural heritage and further developments in tourism. . . . [reshaping] its physical planning and development by introducing new planning ideas and innovations” (Fallahi, 2008, p. 387).

Studies have also found the contribution of spirituality to disaster resilience of individuals and communities. Jang (2005) inquired how continuous religious affiliation helped the 1999 Taiwan earthquake survivors to cope with the disasters. Survey and qualitative interview participants indicated that their religious faith was important during post-traumatic growth. In Taiwanese culture, *Hakka Spirit*--the spirituality associated with lifestyle, a set of beliefs, history of ancestry and, the essence of unique culture that evolved over time—was the principal cultural quality influencing post disaster resilience. To understand the meaning of disaster, death and the prospects of an after disaster life, spirituality provided answers in the eyes of survivors.

Community belief system, collective hope and spirituality, connectedness, and affective sharing and support are important for post-disaster resilience. “It is crucial to understand [community’s] belief system, rooted in cultural and spiritual traditions, which influences members’ perceptions and coping responses to traumatic experiences” (Walsh, 2007, p. 211). As a positive outlook during the time of catastrophe, hope “fuels energies and investment to rebuild lives, revise dreams, renew attachments, and create positive legacies to pass on to future generations (Walsh, 2007, p. 213) while spirituality and connectedness encourage affective, intimate sharing among

the disaster victims to renew collective identity to respond to the disaster in a positive way. Following a study of Ukrainian minority communities in Russia and Chinese communities' response to the 2008 earthquake in Sichuan in China, Dueck and Byron (2012) posited that "spirituality can also play a positive role in the recovery of meaning and community after disaster when honored rather than instrumentalized" (p. 993). During the time of disasters, people turn to their families and religion more than any other time to build resilience. In the case of World Heritage of Shirkawa-Gu village in Japan, traditional social and religious networks successfully contributed for the management and reconstruction of cultural heritage taking into consideration local spiritual wisdom (Jigyasu, 2015).

2.3 Summary of Literature

The literature discussed above was divided in two sections. The first part focused on how communities form SOP living at a particular place over a long period of time, and what distinct features constitute SOP when historical and cultural backgrounds of heritage are considered. The literature highlighted how people are locally set in their everyday life carrying forward tangible and intangible legacy of their ancestors' historical cultural forms, especially in the context of community response to place disruption due to natural disaster. The discussion also stressed on the development of spirit of place carrying physical and symbolic values fused with human environment (Norberg-Schultz, 1980; Tuan, 1979). The culture and history indigenous communities cultivate living at a particular place over a long period of time reflect works and aspirations of people and their ancestors. Their SOP fused with rich cultural practices keeps them secure, rooted, at ease, territorial, and full of self-confidence (Hay, 1998). Moreover, communities' body and soul remain intrinsically and mystically filled with spirituality and

divinity that their cultural cosmology exerts in the forms of arts, songs, folk stories, legends, vernacular architecture, religious faith and similar other things (Hay, 1998). Norberg-Schultz (1980) added, communities need functioning built structures, symbols and works of art that represent their life situations. Presence and preservation of such locally distinct features is the key component of SOP (Hargeaves, 2004). Such rootedness and bondedness to their communal SOP intrinsically reflects communities' identity and attachment. It is such identity and attachment that remains at the heart of community resilience when any disaster disrupts the harmonious continuity of historical and cultural community fabrics.

The second part of the literature focused on the development of the concept of resilience over time, and community resilience in the context of natural disasters as relevant to the purpose of the study. Community resilience focuses on people's positive response to the effects of external shocks in order to restore stability (Manyena, 2006). Resilience perspective also focuses on the reduction of vulnerabilities brought by new challenges so that communities remain strongly equipped to confront future disasters. Such transformability is important in resilience thinking because a resilient community doesn't merely respond to challenge by its usual form, but adapts in better ways to adjust to the new environmental constraints (Kirmayer et al., 2009). While ecological resilience focuses on systemic, long-term sustainability of natural resources, recent development in resilience in developmental psychology considers social and cultural elements. A synergy of these two dominant resilience thinking provides a broader perspective to explore community resilience at UNESCO Heritage Sites of Kathmandu. Community resilience is influenced by local identity and attachment based on shared cultural heritage. Previous studies have found that cultural values, cultural competence, spirituality, religious faith, and cultural

heritage play positive role towards building disaster community resilience (Binder, 2012; Jangh, 2005; Jigyasu, 2015; Liu & Mishna, 2012). Based on the foregoing review of literature, a conceptual framework is developed to show the relationship between SOP, natural disaster, and resilience as well as role of SOP in disaster community resilience (see Figure 2).

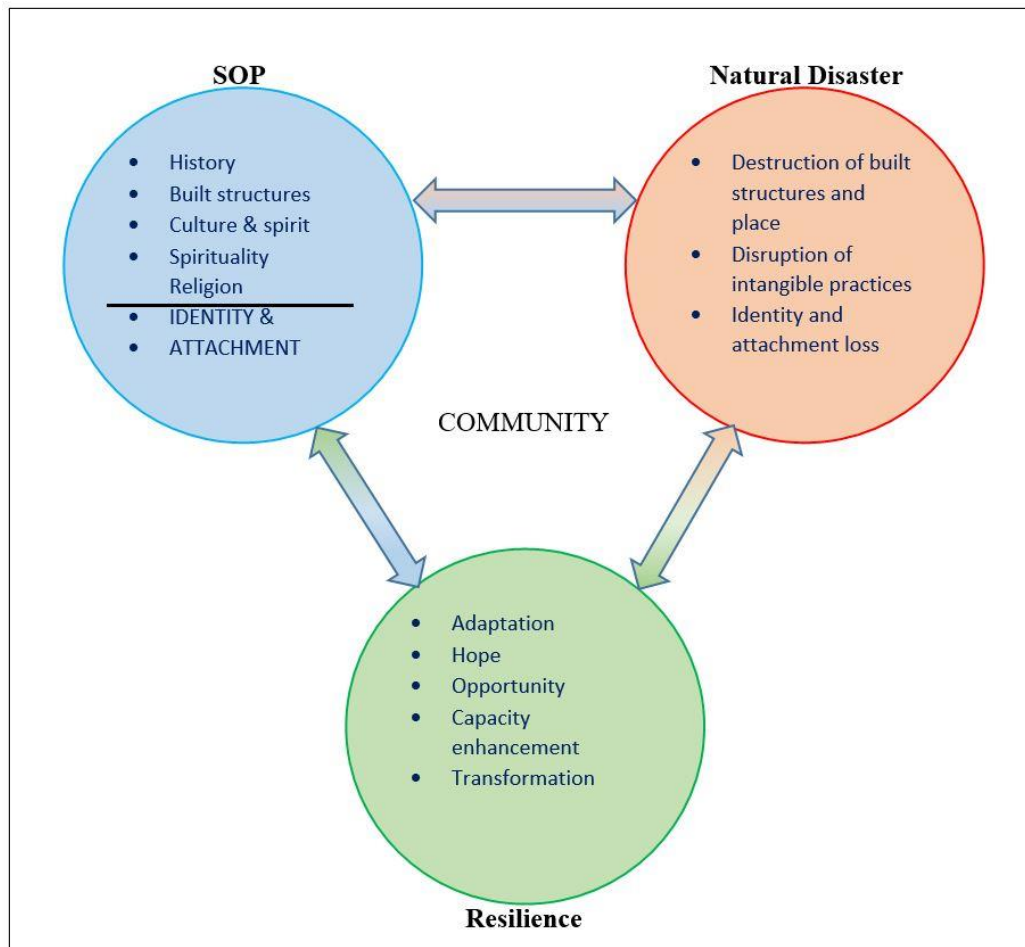


Figure 2: The relationship between sense of place, disaster, and community resilience. Conceptual model created by the author.

The framework developed for the study takes community at the center with SOP, natural disaster and resilience surrounding it. As shown in the figure, SOP is enforced by the history, tangible heritage (in the form of built structures), and intangible heritage (which consists of culture, spirit of place, people's spirituality and their religious practice, etc.). These elements of SOP

contribute to the formation of identity and attachment for community members. Onset of a natural disaster disrupts community identity and attachment as it destroys the built structures and also disrupts the intangible practices thereby causing the loss of people's identity and attachment associated with the place. Resilience taps to community SOP to adapt to the new constraints brought by the disaster and to focus on hope and opportunity after the disaster. Strength drawn from SOP also enables the community to have transformative views and actions to remain stronger. Scholars have stressed the need to consider complex dynamic of cultural factors that concern community psychology associated with place identity and attachment as resilience studies have poorly specified cultural heritage in studies of disaster community resilience (Brown & Westaway, 2011; Cox & Perry, 2011).

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Study Location: Kathmandu Valley

Kathmandu Valley, hereafter referred to as Kathmandu, is the capital of Nepal. It is a 667 km² saucer shaped valley located at the geographical coordinates of 27°38'32" to 27°45'7" north latitudes and 85°16'5" to 85°22'32" east longitudes in central Nepal (Bell, 2014; Chaulagain et al., 2014; Upreti & Poudel, 2012). Situated at an average height of 1350 meters from the sea level, Kathmandu has a sub-tropical cool temperate climate (Chaulagain et al., 2014; Thapa et al., 2008). On average, temperature ranges between 30°C in May and 2°C in January, while

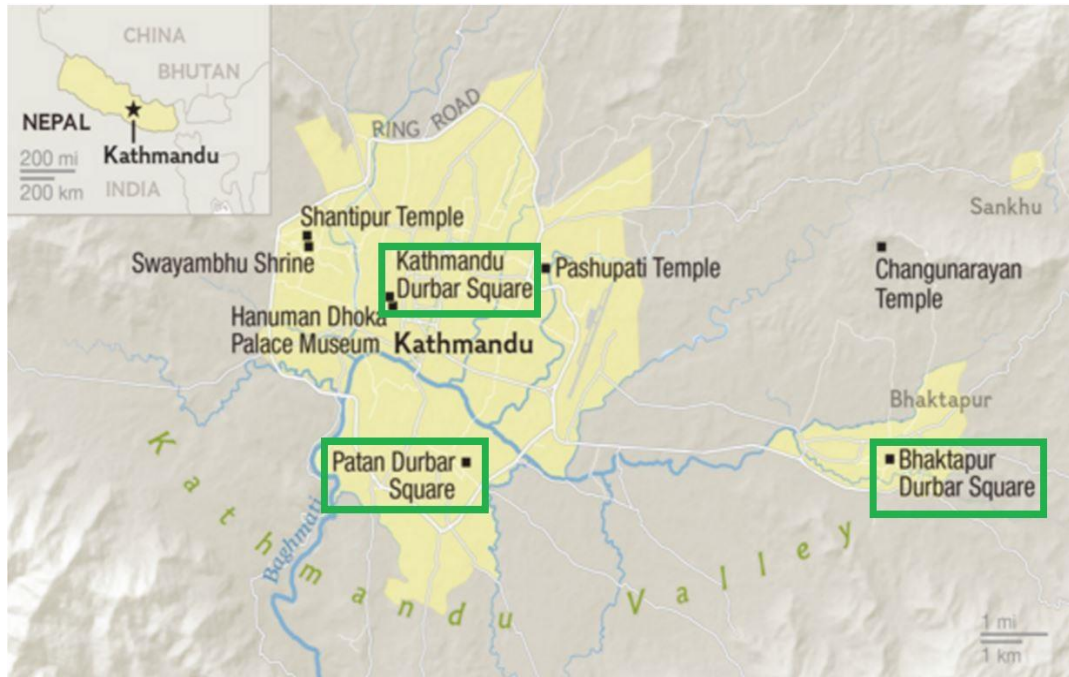


Figure 3: Kathmandu valley and the three Durbar squares. Source: UNESCO World Heritage Center, cited in Lawler, 2015.

annual rainfall is around 1700mm with average humidity of 75% (Chaulagain et al., 2014; Thapa et al., 2008). Kathmandu has three of Nepal's 75 administrative districts (Kathmandu, Lalitpur, and Bhaktapur), and has three major vibrant cities of identical names including many other

municipalities and village development committees (VDCs). Collectively, the valley's population is 2.52 million spread across 307,000 households (Government of Nepal, 2012).

Nepali civilization originated in the Kathmandu Valley over millennia, and the society was governed by a succession of kings and clans until 2006 when Nepal was declared a federal democratic republic (For a detailed account of Nepal's political history, please refer to Bell, 2014). Kathmandu's cultural history is reflected in its rich heritage of traditional arts, architecture, and culture. Numerous historic monuments, temples, stupas, legends, and the living heritage of indigenous Newar communities make Kathmandu a popular destination for visitors from within and outside the country. Owing to its outstanding, unmatched cultural richness, UNESCO placed seven cultural sites from Kathmandu on the world heritage list in 1979 (UNESCO, n. d.).

In 1982, the director general of UNESCO Amadou-Mahtar M'Bow said, "The Kathmandu valley, a miracle of fertility, opens out amid the grandeur of a mountain landscape...here survive the priceless testimonies of Nepalese culture, expressing both the quest for an ideal and a remarkable history" (Sanday, 1982, p. 13). The artistic grandeur of the heritage monuments of Kathmandu, especially the multi-tiered pagoda style, was so popular in the ancient time that their fame spread as far as the court of Kubilai Khan in Beijing (Hutt, 2015). Kathmandu's contribution to art and architecture of the world is disproportionate to its relative physical significance (Sandy, 1995; Slusser, 1982). Similarly, Kathmandu is exalted as the "greatest cradle of urban civilization in the Himalaya" (Bell, 2014, p. xxii). These emblems to the cultural

significance of majestic historic monuments of Kathmandu speak their merit not only in the past but also in the present times. Therefore, UNESCO (2015, para. 14) mentioned that:

The city of Kathmandu is a melting pot for the nation's population, not only today but also in times past, which probably explains the rich cultural heritage of the city. Kathmandu with its unique architectural heritage, palaces, temples and courtyards has inspired many writers, artists, and poets, both foreign and Nepalese. It boasts a unique symbiosis of Hinduism, Buddhism and Tantrism in its culture, which is still as alive today as it was hundreds of years ago. The religious influence can be openly seen in the city. Most of the principal monuments are in Durbar Square, the social, religious and urban focal point of the city, built between the 12th and the 18th centuries by the ancient Malla kings of Nepal.

The whole of Kathmandu valley with its seven groups of monuments and ancient buildings that reflect full spectrum of historic and artistic plethora of ancient civilization were inscribed in UNESCO World Heritage in 1979 (UNESCO, n. d.). UNESCO further mentioned that these monuments, beginning as early as the 5th century and predominantly from 1500-1800 AD, represent the outstanding cultural continuum of indigenous Newar communities of Kathmandu under three criteria:

- Criterion iii: These monuments represent unprecedented evidence of vernacular Newari civilization of Kathmandu Valley over two millennia with one of the highly advanced craftsmanship of brick, stone, timber and bronze in the planet. They represent unique confluence and coexistence of Hinduism and Buddhism, full of ritual and tantric elements.

- Criterion iv: The monuments bear exceptional architectural styles with an ensembles of urban fabric that reached to its zenith between 1500 and 1800 AD. Such outstanding forest of palace complexes, temples, and stupas are typical of Kathmandu Valley.
- Criterion vi: The intangible properties of these monuments have unique confluence and juxtaposition with Hinduistic and Buddhist forms of rituals and tantric forms. The ornamentation and symbolic emblems of the artistic values of the buildings, with their surrounding urban and natural environment embody age long legends, rituals, and festivals.

This research was conducted in the pre-dominantly Newar communities surrounding the three ancient Durbar squares, namely Hanumandhoka, Patan and Bhaktapur (See figure 3). The purpose of selecting the three sites for the study was not to compare or contrast perceptions of resilience of local communities living around these sites but to simply to explore the common historical, cultural, religious, economic, and pragmatic significance of these sites to surrounding communities. As the national capital and the most developed part of the country, Kathmandu is characterized by a mix of recent technological advances, influences of globalization, rapid and often unplanned urban sprawl, and an influx of thousands of immigrants from around the country. Although such influences are changing the valley, traditional Newari communities and their tangible and intangible heritage is relatively unaffected in these ancient squares.

The April 2015 earthquake(s) caused unprecedented damage in Kathmandu Valley (See Table 2), killing an estimated 1,725 people, injuring another 11,046, and displacing at least 66,780 residents (Nepal Police, 2015). In terms of infrastructure, the earthquake damaged 833

government buildings, 473 school buildings, 185 health facilities, and 152,988 private houses (Nepal Police 2015).

Table 2: Casualty, injury and structural damage due to 2015 earthquake in Kathmandu valley's three administrative districts. Source: Nepal Police, 2015.

Category	Kathmandu	Lalitpur (Patan)	Bhaktapur	Total
Dead	1233	180	133	1,546
Injured	7950	3,051	2,011	13,102
Government Buildings (Fully Damaged)	99	217	5	321
Government Buildings (Partially Damaged)	296	198	51	545
Private Houses (Fully Damaged)	43,805	17,444	18,900	80,149
Private Houses (Partially Damaged)	55,131	8,064	9,051	72,246

3.1.1 A Brief Chronology of Earthquakes in Kathmandu

The landmass that comprises Nepal and the Himalayan arc has a long history of earthquake activity. Aydan and Ulusay (2015) note that about 225 million years ago the Indian continent floated off the Australian coast. A vast ocean called Tethys Sea remained between the Indian continent and Asian continent. Nearly 80 million years ago, the floating mass broke apart and India began to move northward at a rate of 9 meters per century, eventually colliding with the Eurasian plate 40-50 million years ago (Aydan & Ulussay, 2015; Baruwat, 2014). Nepal lies at the juncture where these two plates collide. Despite collision, the Indian plate continues its movement “resulting in slicing, breaking, and folding which resulted in the upliftment of the

country's front edge... to the formation of Himalayas" (Baruwal, 2014, p. 23), while hills, valleys and the Shiwalik hills borders the plain land in the south. Even today, Baruwal added, the Indian plate is moving northward at a rate of 20 millimeters per year, subducting below Tibet and pushing the Himalayas upward. The subduction of the Indian plate underneath the Eurasian plate is the major cause of earthquake in Nepal. Following J. P. Avouac and colleagues (2001), Dixit et al. (2013) mention that frequent earthquakes have produced a rupture of 250-300 km along the Himalayan belt in association with co-seismic slip of about five kilometers of average length.

Nepal occupies 20th position as one of the most disaster prone countries, and is 11th in terms of earthquake vulnerability among all the countries in the world (Baruwal, 2014). Among the 21 cities around the world that lie in similar seismic hazard zones, Kathmandu is at the highest risk in terms of impact on people (Baruwal, 2014). Nepal, and Kathmandu for that matter, has a long history of devastating earthquakes (Baruwal, 2014; Dixit et al., 2013; Chaulagain et al., 2013; see Table 3 for the list of major earthquakes in Nepal). The oldest recorded earthquake in the year 1255 is reported to have caused tremendous damage to Kathmandu. Since then, major earthquakes have been reported in 1408, 1682, 1801, 1833 and 1866 (Baruwal, 2014; Dixit et al., 2013). With a magnitude of 8.4 Richter scale, the Bihar-Nepal earthquake in 1934 was the last major earthquake that struck Kathmandu. Widely referred to as "*nabbe sal ko bhuinchalo*" (*nabbe* here refers to the year 1890 as per the Nepali calendar which is 57 years ahead of English

Table 3: Major past earthquakes in Nepal. Source: Modified after Dixit et al., 2013, p. 637.

Year	Richter Scale (Epicenter)	Casualties	Structural damage
1255	-	One third of Kathmandu's population died including King Abhaya Malla	A lot of residential buildings and temples damaged
1408	-	Many people	Huge damage to residential buildings and temples. Fissures developed on the ground
1833	7.7	414 people died in and around Kathmandu valley	18,000 buildings damaged in Nepal of which about 4,000 houses collapsed in Kathmandu, Bhaktapur and Patan
1934	8.1 (East Nepal)	8,519 people died in Nepal. 4,296 were from Kathmandu valley alone.	Over 200,000 buildings were damaged of which 12,397 were from Kathmandu. Across the country 420 temples, monasteries and structures of cultural importance were damaged.
1966	6.0 (Bajhang)	24 people died	6,544 buildings damaged
1980	6.5 (Chainpur)	103 people died	25,086 buildings damaged across country
1988	6.5 (Udaypur)	721 died (1000 Shakya et al 2014)	66,382 buildings damaged across country
2011	6.9 (Sikkim-Nepal border)	6 dead (two from Kathmandu) and 30 injured.	66,382 buildings damaged across country
2015	7.8 (Gorkha)	8,693 dead and 22,491 injured	510,929 structures damaged across country. Among them nearly 400 temples, monuments and structures of cultural importance were damaged.

calendar), tales of death and destruction caused by the “great” earthquake has been passed from one generation to the next. A total of 4,296 people in Kathmandu, from the total of 8,519 for the whole country, lost their lives in the 1934 earthquake. It destroyed 19% of the valley buildings and caused structural damage to a further 38% of the buildings, together with many historical and cultural monuments. The highest level of destruction was reported from Bhaktapur District and the eastern section of the valley (Chaulagain et al., 2014, Dixit et al., 2013). Other minor earthquakes have occurred since then. For example, in 1980, a 6.5 Richter scale earthquake, with its epicenter in Bajhang District in western Nepal caused 178 deaths. In 1988, a 6.6 Richter scale earthquake occurred in Udaypur district in eastern Nepal, killing 721 people and damaging 40,000 buildings (Baruwal, 2014). A 6.9 Richter scale earthquake occurred on September 18, 2011 causing serious damage to older constructions, and many landslides and slope failures in eastern Nepal. Despite minimal human casualties (6 dead), the earthquake damaged 21,000 non-engineered buildings (Dixit et al., 2013). These events indicate that seismic activities in Nepal is a regular phenomenon, some more destructive than others.

Kathmandu, as mentioned above, is at a high risk of earthquake destruction. Cultural and heritage buildings that have existed for hundreds of years are thus at perpetual risk; potential losses are simply immeasurable (Shakya et al., 2014). The majority of Kathmandu's heritage



Figure 4: Bhaktapur Durbar square before and after the 1934 earthquake.
Source: Ranjitkar, 2000, cited in Shakya et al., 2014, p. 1681.

monuments were constructed during the 14th century from locally available materials in vernacular style. Despite being designated world heritage sites they are structurally poor due to the passage of time. Historical buildings have suffered more in the past earthquakes, but the documentation of losses has not been carried out well and in a systematic manner. Available historical photographic records indicate that losses were quite significant (see Figure 4).

3.1.2 History of Kathmandu (Nepal) and Development of Durbar Squares

The ancient history of Kathmandu valley, which was known as “Nepal” long before the conception of modern Nepal, is full of legends and myths that have both Hindu and Buddhist interpretations that date back to the pre-Christian era (Hutt, 2015; UNESCO, n. d.). Both scientific and mythical interpretations agree that the valley was a great lake in the geological past (Pleistocene era) before it was drained for human settlement (Thapa et al, 2008; Hutt, 2010). According to Swoyambhu Purana (the ancient Buddhist religious text), the Bodhitsava (Buddha-to-be) Manjushree came down from the north and cleaved the southern rim of the valley with his magic sword to drain the water of the vast lake, fascinated by the miraculous lotus-borne flame on the lake (Hutt, 2010, 2015; Owens, 2002; UNESCO, n. d.). He then rendered the valley appropriate for habitation. Hindu account of the draining the valley credits the attempts of the son of lord Krishna, Pradhyumna, who released the river goddess from the demon who had imprisoned her in the still waters of Kathmandu (Hutt, 2010).

Historians and writers state that conventional history of the valley begins with two initial dynasties of kings, Gopalas (cowherds) and Mahispalas (buffalo herds) who ruled the valley for about 1000 years before losing it to the Kiratas (Hutt, 2010; Thapa et al., 2008). There is lack of

evidence from this time. Although Buddha and Mauryan Emperor Ashoka were supposed to have visited Kathmandu, there is not enough historical evidence to support these ideas either.

Pre-Lichhabi Period (624 BCE-2nd Century)	<ul style="list-style-type: none"> • Reign of Gopalas (Cowherds) and Mahispalas (Buffaloherds) • Final centuries BCE: Probable Kirati dominance of Kathmandu valley • C. 322-183 BCE: Probable foundation of Ashoka Stupas in Patan • 1st/2nd Centuries: Earliest known Nepali stone sculptures
Lichhabi Period (AD 300-879)	<ul style="list-style-type: none"> • 320-540: Introduction of Buddhism to Nepal • Pre-400: Reign of 3rd Lichhabi king Vrishadeva (Swayambhu Stupa founded) • 400-464: Reign of 4th Lichhabi king Shankaradeva and reign of Dharmadeva (Changunarayan and Pashupati temples founded) • 464-506: Reign of Manadeva (Changunarayan inscription) • 560-565: Reign of 10th Lichhabi king Ganadeva • 590-604: Reign of 13th Lichhabi king Shivadeva I (Foundation of Boudha Stupa) • 605-621: Reign of Amshuvarma • 643-679: Reign of 17th Lichhabi king Narendradeva (Visit of Chinese envoy Hsuan-Tse to Nepal) • 690-705: Reign of 17th Lichhabi king Shivadeva II
Transitional Period (789-1200)	<ul style="list-style-type: none"> • 980-998: Reign of Gunakamadeva (Traditional date of foundation of Kathmandu) • Prior to 1143: Foundation of Kasthamandapa • Mid 12th-century: Probable date of foundation of Tripura Palace in Bhaktapur
Malla Period (1200-1768)	<ul style="list-style-type: none"> • 1200-1216: Reign of 1st Malla king, Ari Malla • 1342: Possible date of Mul Chowk at BDS established • 1349: Samasuddin Ilyas (Muslim) raids in Kathmandu • 1382-1395: Reign of Jaya Sthiti Malla • 1428-1482: Reign of Yaksha Malla in Bhaktapur (Foundation of Dattatreya temple and Pujari Math) • 1480 Foundation of Yaksheswor temple • 1482: Division of Kathmandu into three kingdoms



Figure 5: A brief chronology of Nepal's history and the date major monuments at three durbar squares were built. Source: Modified after Hutt, 2010, pp.219-223.

Lichhabis (the next rulers in Kathmandu), who had their roots in Vaishali across the Ganges in India, arrived in Kathmandu sometime between 5th century BC and 250 AD and established a semi-autonomous kingdom in the Himalayas (Hutt, 2010). According to Hutt, between the 5th and 7th century, the Lichhabis founded many of Nepal's holiest temples and made the finest stone sculptures, examples being the Shiva temple at Pashupati, Changuanarayan and the great stupa of Swoyamhu, and some 200 inscriptions, architectural and sculptural remains of this period. The Lichhabi period was remarkable for the inception of documented history, outstanding stone sculptures and shrines, establishment of the foundations for holiest shrines and temples, early development of literature and painting, and flourishing of both Hindu and Buddhist religions (Hutt, 2010, 2015; UNESCO, n. d.). Lichhabi King Gunakamadeva supposedly founded the city of Kathmandu, named after the wooden pavilion, Kasthamandapa, (completely collapsed after the 2015 earthquake) that he built at Hanumandhoka Durbar Square (Hutt, 2010; UNESCO, n. d.). The period between late 8th to the arrival of Mallas in 12th centuries is known as dark period in the history of Kathmandu because of the lack of historical evidence from that time (Hutt, 015).

The next rulers of Kathmandu were Mallas. Mallas came from Western Nepal to establish their dominance in Kathmandu in early 1200s (Hutt, 2010; Thapa et al., 2008). The Malla period from 13th to 18th century is considered the "Golden Period" in Kathmandu's art, architecture, culture and trans-Himalayan trade as they flourished extraordinarily and remained unprecedented in Nepalese History (Thapa et al., 2008; UNESCO, n. d.).



Figure 6: A view of Patan Durbar square before the earthquake. Source: Look I Was There, n. d.

Most of the extraordinary built environment of Kathmandu was constructed by subsequent Malla kings during the 13th-18th centuries. Jayasthiti Malla, who became influential after 1370, ushered the valley with unity and stability to the valley but his descendants began ruling the valley independently “through a complex pattern of conquest, secession, and succession between 1484 and 1619, [creating] three separate Malla city states of Kathmandu,” Patan, and Bhaktapur (Hutt, 2010, p. 22). It divided the consolidation and power of the valley rendering it vulnerable to the growing greed of adjacent rising powers. However, the positive side of this intense rivalry between the three city states resulted in the creation of spectacular artistic royal courtyards in Kathmandu, Bhaktapur and Lalitpur (See Figure 5 for the foundation of major monuments in the three Durbar squares). The influential last Malla kings in Kathmandu (Pratap Malla), Bhaktapur (Jitamitra, Bhupatindra and Ranjit Malla) and Patan (Siddhi Narshingh, Srinivas and Yog Narendra Malla), are all descendants of Jayasthiti Malla and deserve credit on building the finest

monuments that Nepalis revere and take pride as Kathmandu's UNESCO World Heritage sites today (Hutt, 2010). In his recent narrative, *Kathmandu*, Thomas Bell (2014, p. 121-122) describes the layout and aura of the palace squares as:

In each city centre stood a palace. On their exterior, the palaces were decorated like temples, with stone lions at the door and gods and goddesses on the timbers. The kings filled the plazas beyond the palace wall with temples of the high, pure Hindu gods who rule in heaven. Within, they built towering shrines to their private goddesses Taleju, whose secret worship offered them power in this world. More palace courtyards spread but to accommodate their priests. Her secret Mantra was passed from father to son on the king's deathbed, to validate the succession and to give the new ruler control of her power. So, a forest of pagoda roofs was raised over the centres of Patan, Kathmandu and Bhaktapur. Masterpieces of timber and fired earth accumulated through the joint proceeds of jealousy, trade, and debasing the coinage.

King Prithvi Naraya Shah of Gorkha, the kingdom southwest of Kathmandu, annexed Kathmandu to modern Nepal by 1768 (Hutt, 2010), and Shahs ruled Nepal until 2006. After the Shah takeover of the valley, they did not add any major traditional artistic and architectural monuments in Kathmandu.

3.1.3 Architecture and Layout of the Durbar Squares

Michael Hutt, in his book *Nepal: A Guide to the Art & Architecture of the Kathmandu Valley* (2010), writes that most of the monuments of the Durbar squares were made from bricks, tiles, clay, mortar, and stone using homogeneous, vernacular Newari style, most popular being the Newari pagoda style. Newari style pagoda can have from one to five roofs and can be Buddhist

or Hindu, free standing within a courtyard or attached to another building. Newari pagoda's ubiquitous tiered roofs display identical appearance. Their shape is mostly square or rectangular with an individual mother goddess shrine residing in the former, while shrines of groups of mother goddess reside in rectangular ones. Hutt (2010) described the following characteristics of Newari pagoda temples in Kathmandu:

- Generally, a temple is named after the deity for whom it was made and deities have multiple names and manifestations.
- On the basis of sanctum required by the deities, some sanctums are placed on a small space on the ground floor while others have hypothetical positioning. Mostly sanctums are entered by a single door or four doors with one on each side.
- Most Newar pagodas are supported by plinths: some have single plinth while others have a number of stepped plinths. Generally, the number of steps resembles the number of roofs on the building.
- The underlying basic structure of Newar pagoda is simple. A brick core surrounds the top of each tier by a wooden cornice that buttresses wooden struts. The struts extend outward up to 45 degrees to support the surrounding roof. As the roofs increase, their brick core becomes narrower. However, the only functional space is ground floor sanctum; above it, there remains empty space.
- The sloping roofs, which evolved from ancient thatched roof temples, are made of *jhingati* tiles made in varying sizes from fire-baked clay.
- The outline of Newari pagoda looks attractive from a distance. Their decoration and embellishment is brilliant for close observation. Sparrow-sized birds, faces of protective

deities, banners hanging from the roofs, metal flags and long metal banners hanging from the pinnacle to the lowest roof on the front side are common.

- The struts are typically artistic. The central figures on them are related to the deity residing inside. Above and below them are carved auspicious symbols, minor deities and meditating sages. On the base of the struts, images of sexual intercourse sometimes involving more than two persons or animals are made. Such scenes exist to deter the goddess of lightening, a virgin, from harming the temple, to encourage people to procreate and to contrast the grossness of mundane life outside the temple and the divinity within.

Beside the dominant, authentic Newari pagoda, there are a few other styles of architecture, including the shikhara, dome, and stupa styles in Kathmandu (Hutt, 2010). Shikhara, which literally means “mountain peak” in Sanskrit, is similar to a pagoda. Both pagoda and shikhara architecture have co-evolved since the Lichhabi period. A shikhara has tapering tower made mostly of stone. A stepped plinth supports the whole structure. On the top of the temple, a knobby flattened disk is placed. A number of vertical planes rising from the base support the

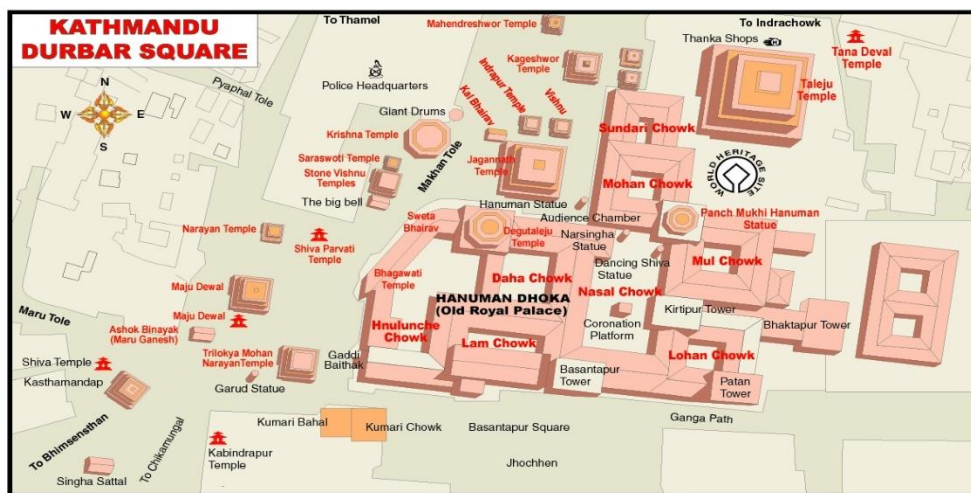


Figure 7: Layout of Hanumandhoka Durbar square. Source, Digital Himalaya, n. d.

tower. An example of this architecture is Krishna temple at Patan Durbar square. First appearing during Malla period, the domed temples are squat square buildings with an onion-shaped dome on the top, resembling the Moghul architectural style. Stupa, another architectural style of monuments found in Kathmandu and elsewhere in Nepal, is exclusively Buddhist. Stupas are large hemispherical whitewashed domes that supposedly enshrine the relics of Buddha at the core. Among the various architectural styles, most of the monuments in the durbar squares are made of pagoda style.

Kathmandu Durbar Square, known more popularly as Hanumandhoka Durbar Square, (HDS) is the most extensive of the three palace squares in the valley, covering more than three times the area of other two palaces (Sanday, 1982). Some fifty important temples and monuments of various sizes, architecture and dominance are located in the square. Pratap Malla, considered a poet and scholar king, is credited to have established major monuments in the HDS premises to give it present form; his copper and gold statue is enshrined on a high pillar beside Degu Tale temple (Sanday, 1982). Some of the most important monuments in the square are Taleju Temple, Kall Bhairab shrine, Nautale Durbar, Coronation Nashal *Chowk*, the Big Bell and the Big Drum, Jagannath Temple, Shiva Parvati Temple, Kasthamandapa, Maju Dega Temple, Kumari Bahal among others (see Figure 7 for HDS layout and major temples and monuments).

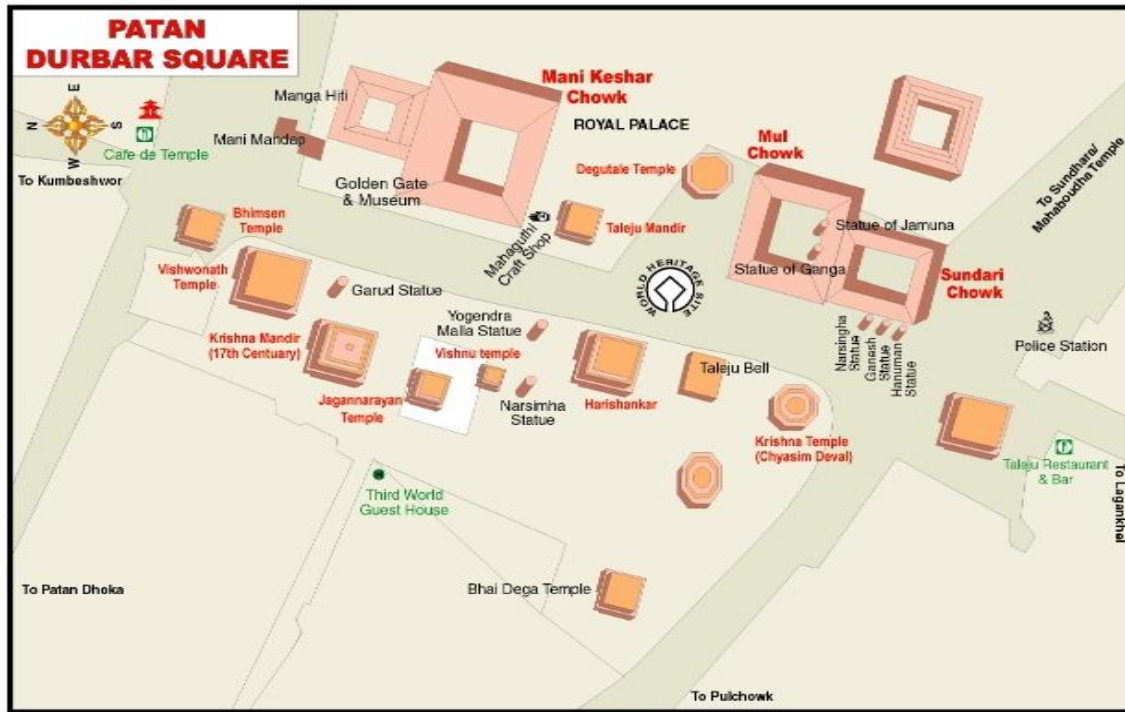


Figure 8: Layout of Patan Durbar Square. Source: Digital Himalaya, n. d.

Patan Durbar Square (PDS; see Figure 8 for its layout), 7 km east from the heart of Kathmandu city, is surrounded on three sides by multi-storey residential houses and the fourth side opens to gardens (Sanday, 1982). The PDS has three major chowks (courtyards). The courtyards include Mul *Chowk* (oldest one built by Sri Nivas Malla), Sundari Chowk (consisting of a sunken royal bath, with a beautifully carved stone-walled pool and embellished by images of Hindu gods and goddesses: Ashtamatrikas, Ashtabhairabs, the Astangas, and the Dashavatar of Vishnu), and Mani Keshab Narayan *Chowk* (built by Yog Narendra Malla in 1733/34 and has gilded doorways and *torana* with Shiva and Parbati). Other monuments of significance include —Degutale Temple with its many ceremonial rooms, Nashal Chowk which served as a staging ground for theaters and festivities, Manga *Hiti* (the oldest structure originally made by Lichhavis in the 10th century), Bishwanath Temple, Krishna Temple, Bhimshen Temple, Degu Tale, Taleju Mandir

among others (Sanday, 1982). As in the past, PDS is the venue for colorful celebrations of festivals and traditional dances such as Narshingh Dance, Krishna Stauri, Gyanpakhan, Dipankar exhibition (every twelve years), and Gai Jatra, among others (Sanday, 1982).

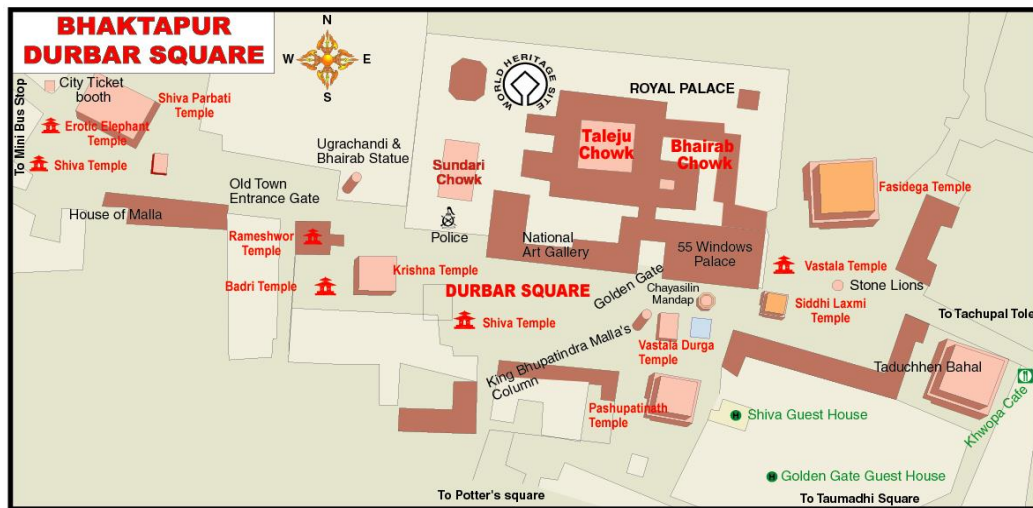


Figure 9: Layout of Bhaktapur Durbar Square. Source: Digital Himalaya, n. d.

Bhaktapur Durbar Square (BDS; See Figure 9 for the layout), 15 kilometers east of Hanumandhoka (Rana, 1990), is slightly different than other two squares as it has many significant monuments scattered around the city. As in other squares, it also has Mul *Chowk*, Taleju Temple and other temples of identical names. Significant monuments in BDS include “*pachpanna jhyale durbar*” (Fifty-five Window Palace), Bhairab *Chowk*, Nag Pokhari (all made by Bhupatindra Malla), beautiful golden gate (made by Ranajit Malla), Kumari *chowk* (made by Jitamitra Malla), and beautiful sheds to the south of the main square, among others (Sanday, 1982). According to UNESCO (2015), an Integrated Management Plan controls urban encroachment and preserves authenticity in these three Durbar squares and Implementation of

Nepal government's Ancient Monument Preservation Act, 1996 has given the highest level of national security to these sites.

3.1.4 The Newars and Significance of their Cultural Heritage

The word “Newar” denotes the people living in the Kathmandu valley and elsewhere who speak their own mother tongue called Newari or *Nepalbhasa* and follow Newari culture and traditions. *Nepalbhasa* was in use in the valley as far as history may go in Kathmandu (Shrestha, 2012; von Fürer-Haimendorf, 1956). According to the 2011 census of Nepal, Newars are the sixth largest indigenous group in the country comprising 5% of the national population (Government of Nepal, 2012). Newars are the original inhabitants of Kathmandu valley, although the word “Newar” became popular only after the annexation of Kathmandu valley in modern, greater Nepal in 1769 (Shrestha, 2012). Majority of Newars live in Kathmandu valley and their largest towns are Kathmandu, Patan (Lalitpur) and Bhaktapur (von Fürer-Haimendorf, 1956). Newars today live throughout Nepal. They are also found in Darjeeling (India), Bhutan, and Lhasa (Tibet) (Nepali, 1959). Newars are more educated, economically well off, urban dwellers, and tend to be more modernized among all ethnic groups of Nepal. Trade and business, sculpturing, woodcarving, agriculture and civil service are their major occupational involvements.

The origin of Newars is highly debated. There are multiple interpretations of Newars' lineage because their physical appearance resembles to many other ethnic groups; their language comes from Tibeto-Burman section, and their original place of habitation remained Kathmandu which remained the confluence of various immigrants from both the North and the South over centuries. Some believe that Newars are the descendants of Kiratas, who ruled the valley before

the Lichhabis, while others speculate that Newars are the descendants of Nayars of Kerala in India; some even stipulate that Newars came from Tibet following Saint Manjusri who drained the valley waters to make it habitable (Shrestha, 2012).

Newars are influenced both by Hindu and Buddhist religions and majority of them tend to follow the former. However, they “do not seem to regard the distinction between ‘Buddhists’ and ‘Hindus’ as constituting a major cleavage within their community, and in the Newari language there are no terms exactly corresponding to the words” of these religions (von Fürer-Haimendorf, 1978, p. 17). In the life of Newar communities, “Hinduism and Buddhism merge into one another, and both seem to be substrata of more aboriginal religious practice” (Doherty, 1978, p. 434). Under the caste system, prevalent in Nepal since the time of the 14th century King Jayasthiti Malla, Newars are divided into many occupational castes with their respective hierarchy (Shrestha, 2012).

Many invaders and immigrants came and assimilated in the valley culture over time as it was the center of trade, culture, and civilization. Even after the modern annexation of the valley in greater Nepal in 1769, the rulers accommodated in its dominant culture and tradition, by making Malla palaces as their residences and giving continuity to the rites, rituals, festivals, feasts, and Newari court etiquettes (Shrestha, 2012). Although the ruling dynasties altered, and politics remained in turmoil in Kathmandu throughout the history, Newars have lived prosperous lives and their indigenous practices always remained part of the dominant Nepalese culture (Nepali, 1959). Traditionally, Newars are associated with trade and business and their names are bywords across the country.

The most striking character of Newari civilization is their urban character (Doherty, 1978; von Föhrer-Haimendorf, 1956). The traditional settlement patterns of Newars of Kathmandu and elsewhere have architectural characteristics born out of cultural traditions. Newar neighborhoods are characterized by dense settlements along narrow strips of streets. At the center of these neighbourhoods there is usually a large square filled with temples and palaces from where a web of narrow lanes extends outwards. Slusser (1982, p.15-16) observed traditional Newar neighborhood settlement in Kathmandu as follows:

The Newar town plan is characterised by compact settlement along narrow streets and congested lanes (galli). . . . The capital and the former capitals, Kathmandu, Patan, and Bhaktaur, have several large temple-filled squares, one of which is a royal plaza, the Darbar Square, and seat of the palace compound. From them, and from the main streets or from some important temple square in smaller towns, radiates a web of narrow lanes. These open out at irregular intervals into minor squares, each a neighborhood (*tol*) center and each with its own assembly of temples, shrines, images, and traditional community buildings. . . . They are closely hemmed with tall multi-storey houses . . . Low narrow doorways lead into interior courts, these usually contain a *Chaitya* or domestic shrine, and if the house is a traditional one, are surrounded with elegant facades of brick and carved wood. Everywhere the streets and squares serve as the accepted extension of personal living space and in them the people work, play, and rest.

As observed during field visits, the shared open space in each neighborhood is used as children's playground, the space for sun drying grains as well as a place for camaraderie for neighbors during their leisure hours. It is also the space for cultural rites and rituals, such as birthday

celebrations, common feasts, and marriage celebrations. This heterotopic place is an intergenerational common space that binds family and neighborhood together, and brings them in incessant interaction. Living in such communal ambience, members of Newar communities naturally learn the “principles of co-operative solidarity and reciprocity” (Allen, 1987 p. 93) and practice them on daily basis. Newari cultural richness is the result of their settlement pattern and such structure is still in existence in the core Newari settlements, although many changes are occurring lately in Kathmandu (Shrestha, 2012).

Considering themselves as the bearers of true culture of Nepal, Newars are proud of their culture (Shrestha, 2012). Newars have their own calendar called *Nepal Sambat* that guides their indigenous cultural life. The calendar prescribes rituals and festivals that are unique to Newar communities and not observed by other Nepalese (Levy & Rajopadhyaya, 1990). The social structure and functions of Newars are guided by their devotion. Although Newars have different sub-castes within, all worship certain deities such as Karunamaya (the lord of rainfall), Ashta Martika (eight mothergoddess), Kumari (the living goddess), and Bhairavas (the ferocious god of movement, unruliness, and alcohol) (Levy & Rajopadhyaya, 1990). Religion in Newar communities represents their culture involving their belief, and the observation of rituals and their rules (Levy & Rajopadhyaya, 1990). Slusser (1982, p. 16) observed that every morning, when the dawn breaks, “the ritually purified and fastening devotee hastens to attend the gods” carrying an intricately carved brass tray to go around the sacred places in their neighborhood to offer a flower, scatter rice, light lamp and offer vermilion to shrines.

Similarly, rituals are rooted deep into the culture of Newars and function vigorously in their lives. Living in such community, children inherit the traditions from their parents and grandparents naturally, as Shrestha (2012, p. xiv-xvi) narrated his personal experience:

I was born to a religious Newar family in which the religious traditions . . . were part of daily life for every member of my family. I remember that, during my childhood, the worship (*puja*) of different deity images at my home and in our neighborhood was part of my family's daily routine. . . . I spent my childhood sitting on the lap of my grandmother. . . . I remember that she carried me many times, to ritually wash my face, I must have been less than three years old. . . . I was about six years old when she passed away. By then, her grandchildren had learned the duties of washing their faces and worshipping gods and goddesses every morning. . . . I learned to climb up the hill of Vajrayogini with my father, who used to go to the temple every morning to worship the goddess. . . . On several occasions I followed him when he went to sing devotional songs at other *bhajan* [religious songs] places in the town. When I was about eight years old, I learned to climb the Vajrayogini hill by myself to worship gods and goddesses at the sanctuary. . . . Besides these daily practices, we learned more about our ritual traditions during annual calendrical festivals, feasts, and processions of deities in the town. We learned to follow these rituals and traditions without knowing anything about their meanings. The ritual traditions became deeply embedded in our minds. This is how a Newar learns the religious traditions of his society from early childhood.

The significance of highly organized religious and ritual culture among Newar communities in Kathmandu is great because: 1) Every major city or town has *jatra* of most important deities (for

instance, they celebrate Indra *Jatra* in Kathmandu, Rato Machhindranath *Jatra* in Patan, and Bisket *Jatra* in Bhaktapur fervently every year); 2) they observe certain festival, feast or procession of deities every month on a regular basis; 3) they perform divine masked dances during different times of year and; 4) they observe significant life-cycle rituals set for everyone that continue throughout life in the names of birth purification, name giving ceremony, rice feeding ceremony, old age ceremony among others (Shrestha, 2012). *Durbar* square is always the focal point of all the major festivals, celebrations and ritual observations as Slusser (1982, p. 92) aptly noted:

Kathmandu community festivals take place beginning or ending at the Darbar (*sic*) Square where some part of the principal action unfolds, festival procession pass from one ancient *tol* to another, always within the defined area or one of its halves, and often in a definitely prescribed pattern of precedence.

Newars have *Guthi* organizations for the management of such festivals and rituals and to look after their heritage monuments. “*Guthis* are hereditary common-interest groups whose members cooperate in the performance of various tasks, usually of a religious kind, and which are funded from the income derived from *guthi*-owned” properties (Allen 1987, p. 93). As the most important elements of social and cultural harmony among Newars, *guthis* are involved in the upkeep and maintenance of temples, monasteries, and rest houses; they also organize ritual activities, religious activities, feasts, festivals, processions of gods as well as public entertainments (Shrestha, 2012).

Along with intangible culture, Newari architectural culture is equally significant. Most of the defining ancient art and architecture comes from Malla period. Over centuries, Newars excelled on everything they laid their hands on as architects and sculptors and as masters in creating wood, bronze, and copper arts (Lieberman, 1995). “The corpus of religious monuments, pagoda style temples, stupas, god houses, public buildings and rest places is known as Newar art and architecture, and is famous for its artistic beauty, and peculiarity throughout Asia and beyond” (Shrestha, 2012, p. 38). Many monuments survived the great earthquakes of 1833, 1934, and 2015. Not only the public monuments, the doors and windows of traditional Newar private houses are also embellished with the artistic carvings of gods, spirits, demons, and natural elements that represent their cultural universe (Lieberman, 1995). Despite the intervention of modern building styles, Newar architecture is still very popular in Kathmandu and is equally favored in contemporary times as Shrestha (2012, p. 40) mentioned:

In all the three cities of the Kathmandu Valley—Bhaktapur, Patan and Kathmandu—the local governments (municipalities) . . . support rebuilding public places in traditional Newar style. In tourist business sectors, such as hotel buildings and restaurants, Newar architecture has become popular. The production and selling of Newar style sculptures, crafts and arts has also become a rewarding business in Nepal.

Kathmandu’s 2000-year history is reflected in its rich traditional arts, architecture, and culture of Newar communities (Hutt 2010). Although the ruling dynasties wavered, Kathmandu has an “unbroken cultural continuum from AD 300—1769” (Slusser 1982 p. xii). Newari vernacular architecture is preserved in the forest of ancient monuments in the *Durbar* squares constructed from 12th to 18th centuries by the Malla kings (Bell 2014); these *Durbar* squares are also the

focal points of showcasing Newars' cultural celebrations, *jatras*, and ritual practices in an unending cycle throughout the year (Slusser 1982; UNESCO, n.d.). Such cultural and ritual practices have enabled them to cope with the disasters and return to normal life in the past (Bhandari, Okada and Knottnerus 2011).

3.2 Research Design

The purpose of this qualitative case study was to explore community perception of loss of cultural heritage and associated identity at UNESCO Heritage Sites of Kathmandu after the 2015 Nepal earthquake. Furthermore, it explored local residents' views on prospects of heritage renewal from the perspective of community resilience. In order to draw personal, subjective experiences of loss of heritage among the local communities and their perspectives on heritage renewal, it was necessary to follow a systematic and rigorous research methodology.

Methodology etymologically comes from the Greek word “μεθοδολογία” meaning a rational journey made to pursue some specific goal. In research related to human and cultural geography, it signifies standard procedures of executing and evaluating a research (Dan, Nash & Pearce, 1988). A qualitative enquiry necessitates a rigorous research process that would help answer the research questions in a comprehensive and appropriate manner.

3.2.1 Epistemological Position and Researcher's Role

My philosophical assumption provided rationale for choice of methods and particular forms of employing them in the study. According to Crotty (1998), the purpose of the research should justify the methodology and methods of research; this justification depends upon the philosophical assumption the researcher holds about the reality that s/he brings to the work

(Crotty, 1998). As such, I employed a constructionist worldview which determined subsequent collection and interpretation of data. Typically, a constructionist approach is suitable to qualitative research (Creswell, 2014; Crotty, 1998). Defining constructionism, Crotty (1998, p. 42) asserted: “It is the view that all knowledge, and therefore all meaningful reality as such, is contingent upon human practices, being constructed in and out of interaction between human beings and their world, developed and transmitted within an essentially social context”.

Constructionism emphasizes the lived experiences of human beings in the world. Meaning is not discovered but constructed by human beings and the construction of meaning differs from person to person as they perceive the world differently and their views are shaped by the culture and history they experience. As such, the meanings and identities that the communities living in the vicinity of UNESCO World Heritage Sites in Kathmandu ascribe to their ancestral heritage monuments are contingent of the history and culture they live in. In this regard, understanding the unique lived experience of the informants in the aftermath of the 2015 earthquake in Kathmandu is dependent upon the interaction between local communities, and the researcher and is influenced by the social and historical context of both (Crotty, 1998).

This research was based on the immediate aftermath of the earthquake experienced by the local inhabitants in 2015. As a Nepali national, I was aware of the cultural norms and approaches required to conduct fieldwork and interviews with the local communities at such a critical time. Although my social background is different from that of the ethnic Newar communities in Kathmandu, I had lived in Kathmandu for ten years (between 2003 and 2013), and had frequently visited these sites as my favourite places to visit/spend time. This familiarity with the research site, over a decade of living in Kathmandu, expertise in both

Nepali and English languages provided me with the skills of conducting research in Kathmandu independently. Having followed the news and related developments in the aftermath of the earthquake disaster closely, I was quite familiar with the research problem and necessary procedures required for conducting the study. My personal experiences helped me to delve deeper into the research objectives and interpret research data meaningfully. Due to the existing links that I had developed in Kathmandu, it was relatively easy to access the interviewees and conduct my study.

3.2.2 Research Approach and Methods

Since the research required an in-depth exploration of local people's perception of the earthquake on cultural heritage and their outlook on heritage renewal, it was necessary to follow an inductive approach. My selection of particular approaches to inquiry was based on the nature of the research problem, my personal experience, and the worldview I carry to the work (Creswell, 2014). Therefore, a qualitative approach was "best suited for the assessment of resilience" at community level (Boon et al., 2012) in the context of natural disaster because the research aimed to understand "the meanings individuals or groups ascribe to a social or human phenomenon" (Creswell, 2014, p. 4). The study aimed to gain an in-depth understanding of local community perceptions, rather than test any variables, and so a qualitative approach allowed me to remain open-ended and flexible, welcoming new developments during the study. Research in human and cultural geography is not only concerned with facts but also with values; a qualitative approach helped me to discover some of the underlying values of the communities under study (Baker, 2001). Moreover, as this was one of the earliest known research projects on post-2015 Nepal earthquake and community

prospects of heritage renewal, there was a lack of preceding knowledge to assist inquiry, which required the study to be exploratory. Creswell (2014, p. 20) rightly suggested, “if a concept or phenomenon needs to be explored and understood because little research has been done on it [the 2015 Nepal earthquake], then it merits a qualitative approach,” and experience has also shown that “qualitative research is particularly useful” for specific situations such as “traditional preliminary exploration” (Baker, 2001, p. 391).

Stevens and Wrenn in *Exploratory (Qualitative) Research* (2013) suggest that an exploratory researcher must have flexible approach while collecting information and must constantly probe into what lies beneath the surface of what she/he is learning because an insatiable curiosity is the defining trait of such researchers. In this study, I used this guidance to explore the less understood problem [the 2015 Nepal earthquake] and to generate ideas and insights into such problem. I took local perspectives as a way of exploring meaning because “the exploratory nature of the resilience research” was considered as an appropriate strategy (Folke, 2006, p. 254). As such, this study was an exploratory case study.

Case study is defined by Thomas (2011, p. 513) as the analysis of “persons, events, decisions, periods, projects, policies, institutions, or other systems” that are studied historically by multiple methods. In qualitative research, case study has a long history in social sciences that began in anthropology and sociology, especially under practice of the Chicago Department of Sociology from the 1920s and 1930s down to the 1950s (Creswell, 2007) that became more clearly visible after 1990s and well into the 21st century (Creswell, 2014). Regarding its use as a qualitative research methodology, Creswell (2007) says a case study “explores a bounded system (a case) or

a multiple bounded systems (cases) over time through detailed, in-depth data collection involving *multiple sources of information* . . . and reports a case *description* and case based themes” (p. 73, emphasis original). A successful case study requires an explicit design which could specify the main topic to cover, type of participants or their roles to obtain information as well as the unit of analysis at the case level (Yin, 1981a). It requires an organization with a few research questions to build around thematic lines to help the inquirer to connect ordinary practice in the informants’ natural habitats.

Thomas (2011), following a rigorous and systematic analysis of literature, proposed a comprehensive typology of case study as a rigorous approach of qualitative research having multiple key components: Subject (the phenomenon of inquiry), object (the analytical frame through which the subject is viewed), purpose (the reason for doing the study), approach and methods (approach may be theoretical or illustrative and methods are the techniques of data collection), and the process (the way case study is handled based on time and number of case(s)). Following Thomas’ (2011) many possibilities of qualitative case study, this study took a local case of the communities around the UNESCO World Heritage sites in Kathmandu as the subject of inquiry , community outlook of resilience associated with the renewal of heritage monuments as the object of inquiry, exploration of the community perspectives as the purpose of the research, an non-theoretical, descriptive/illustrative approach and appropriate methods of data collection that the study required and, the snapshot of a single case as the process of the case study (See Figure 10, the trajectory of the case study followed is highlighted).

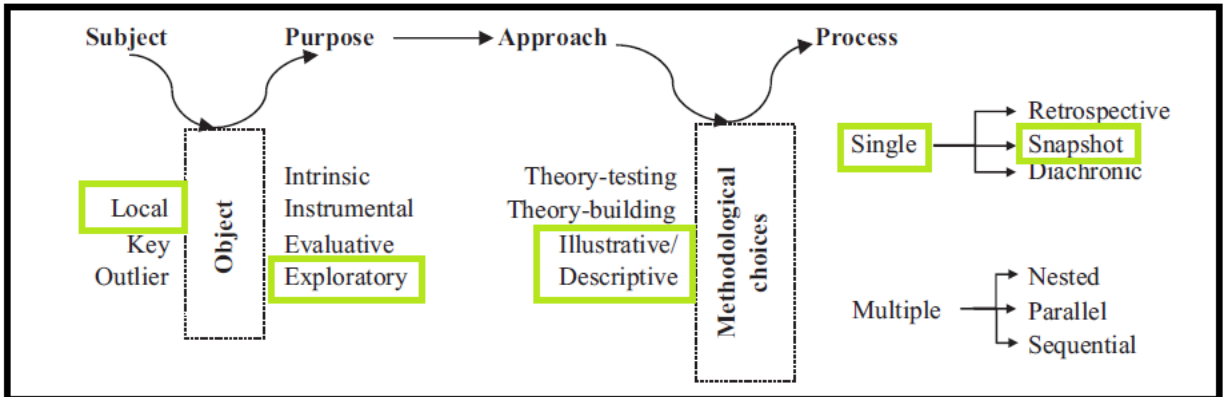


Figure 10: A typology of case study. Source: Thomas, 2011, p. 519.

Furthermore, case study was appropriate for the study because, according to Yin (1981a), it allowed me to examine the ‘how’ and ‘why’ questions in an inductive process. Case study also allowed me to examine the research problem in “its real-life context” (Yin, 1981b, p. 58) and when local informants’ meaning was important (Stake, 2003). Research methods, the techniques of data collection and interpretation that were suitable for this exploratory case study, included field observation, semi-structured interviews, photo documentation, archival documents, and various governmental and non-governmental reports (Creswell, 2007, 2014). The purpose of this qualitative case study was to explore perceptions of community resilience among the local communities living around the UNESCO heritage sites of Kathmandu based on local SOP, after the 2015 earthquake.

To increase the reliability of the information, the study followed a multi-method technique using a variety of sources for “insights and clarifications” (Stevens & Wrenn 2013, p. 53). Emphasis was to “collect data in the field at the site where participants experience the issue or problem under study. . . . The key idea behind [this] qualitative research [was] to learn about the problem or issue from the participants and to address the research to obtain that information” (Creswell,

2014, pp.185-186). Given the research objectives outlined for this study, it was appropriate to study the communities suffering from heritage loss with the researcher being on the field to observe local people's daily life and make face-to-face interactions with the community members so that relevant meanings could be derived to come to certain understanding. In exploring particular experiences local communities had in the aftermath of the earthquake, I was flexible and open-minded to collect data. Field observation, semi-structured interviews, photo documentation of the study sites, archival documents, and various governmental and non-governmental reports worked as the source of data. For the validity and reliability of the research, triangulation in terms of methods of data collection and sources of data was maintained.

Fieldwork in Kathmandu: Kathmandu was a familiar place where I had lived from 2003 to 2013. During the decade long stay, I earned a university degree and taught at various academic institutes. My favorite place of recreation and pastime were the palace squares where I would spend hours and hours during the weekends and holidays observing the wonders of ancient arts and architecture created by the ancestors of present-day local inhabitants of Kathmandu, predominantly Newars. Following ethics approval, I reached Kathmandu on June 19, 2015, just under 2 months after the April earthquake. When I entered the premise of HDS, I felt like I had entered an unknown territory. It was hard to believe the post-earthquake reality of the palace square. However, as a trained researcher, I concentrated on my assignment.

While I was communicating with the participants in the initial days to decide an appropriate time to meet for the interviews, I began visiting the three palace squares. I had several informal conversations with the local people who were available in the premises of the palace squares, and

this provided insights on the contemporary situation and feelings of community members. I avoided people under 18 years of age and anyone who I thought might succumb to emotional breakdown during the interview (e.g. people who suffered more in terms of loss of life and property, and/or physical injury). It took some time to winnow probable informants for the research.

Observation and Photo Documentation: I made detailed observations of the three palace squares, took field notes, and photographically documented the destroyed temples and monuments in the premises of the three squares. According to Baker (2001), observation is a real-time activity that helps a qualitative researcher to systematically gather, record and analyse data with high level of objectivity and reliability to provide concrete results. Realizing that useful sources of information otherwise would soon be lost, I took hundreds of pictures of the premises of palace squares, the temples, buildings, and other monuments to record the physical level of destruction. Photos documented the tangible losses caused by the earthquake, serving as useful source of information later while I analysed the data. Besides, I made notes of the monuments destroyed by the earthquake which later helped to compare with the official record of the inventory of heritage monuments affected in the palace squares. I maintained a journal to capture my personal, subjective experience of the field visit. As the fieldwork was conducted during the monsoon season, I had to carefully negotiate the day and time I would be making observations. I visited the sites during different times of the day to observe people's activities around the palace squares. It provided me the opportunity to observe people's activities differently. Usually, people would come for walk, prayer, and to buy vegetables and groceries from the local vendors in the morning while they would come to the palace squares for taking a rest, making a conversation

with friends, or singing hymns in temples during the evenings. I matched my observation with the ideas of Hutt (2010), Slusser (1982), and several newspaper articles. I also visited tourist centers located at the palace squares, municipal offices (city administration) who had the authority to oversee work in the respective sites, Department of Archaeology (DOA), the government authority that looked after ancient heritage monuments, the museum offices of Hanumandhoka, Patan and Bhaktapur, and the offices of local clubs and NGOs related to the heritage sites to obtain useful documents.

Over two months of field work, I conducted 33 semi-structured interviews with local key informants (KI), beginning with people who I had already contacted prior to field work. These initial informants helped me to find other informants who were in their circles, which mirrors the “snowball sampling method” recommended by Creswell (2014). I maintained my confidence not to tap on to their personal accounts of loss and concentrated only on their views on the effects of the earthquake on tangible and intangible heritage and the renewal of this heritage. Since I approached the informants through personal contacts and reliable networks, almost everyone willingly participated. Many informants expressed a feeling of relief that they found someone to talk to about their grief and sorrow over the unfolding scene of damage and destruction in their neighborhoods.

Semi-structured Interviews: Semi-structured interviews conducted with the community members of the study sites were the principal source of data. Semi-structured interviews helped me to discover the informants’ “thoughts, opinions, perspectives, or descriptions of specific experiences” (deMarrias, 2004, p. 54) that emerged as a consequence of the earthquake.

Interview is one of the oldest and most commonly used methods of data collection; various scholars have extensively used it in qualitative studies (Guba and Lincoln, 1981; Hartman, 1988; Holloway, 2008). Creswell (2014) and deMarrais (2004) call “qualitative interview” as an umbrella term that meets the expectations of in-depth inductive research. deMarrais (2004, p. 52) described how such interviews develop and what can be achieved as a result:

Qualitative interviews are used when researchers want to gain in-depth knowledge from participants about particular phenomena, experiences, or sets of experiences. Using interview questions and follow-up questions, or probes, based on what the participant has already described, the goal is to construct as complete a picture as possible from the words and experiences of the participant. This can only be accomplished when the qualitative interview is open ended enough for the participant to provide a depth of knowledge on the research topic. The intent is to discover that person’s view of an experience or phenomenon of study.

Upon meeting the informant for interview, I thanked him/her for their time. Initially, I explained the objectives of the study and reason for selecting him/her as important KI for the study. I handed and explained the information sheet, got the consent form signed, and asked for their consent to record the interview in a digital audio recorder assuring that I would maintain the anonymity of their identification. They were also informed that they could stop the recorder at any point of interview or even stop the interview if they felt uncomfortable or got overwhelmed with emotions describing their lived experience. Informants took high level of interest to sit for the interview and everyone agreed with the audio recording. I was among the first few outsiders who had approached them to listen to their experiences of the disaster. Sharing their experiences

of the loss of ancient heritage monuments and associated attachment and identity with someone outside was somehow cathartic on the part of the informants because they realized that there were people who felt the same way as they did experiencing the loss of heritage monuments (key informants 6, 12, 16 and, 19 said it during the informal conversation after I turned off the recorder). Since the phenomena to note are not just limited to verbal expressions of the participants, non-verbal connotations, their reactions, behaviours during the interview, and their gestures provided precious clues to the hidden meanings in the interview process (Decrop, 1999) to acquire rich data, and helped me in the analysis and interpretation. The length of interviews spanned from 20 minutes to maximum of 2 hours. All the interviews were conducted in Nepali language and recorded in a tiny digital audio recorder and later transcribed word by word in English. I have fluency to work simultaneously in spoken and written forms of both languages.

The interview process started with the exchange of personal information to build familiarity and ease the mood. After the initial demographic information, questions from the semi-structured guide were gradually introduced as part of the interview (see appendix A for the semi-structured interview guide). The interview questions particularly focused on (1) the community relationship with the heritage sites with focus on social traditions, cultural practices and performances, festivals, and people's casual life; (2) feelings of loss of heritage monuments and the severity of damage to tangible and intangible culture; (3) significance of the heritage monuments based on their spiritual/symbolic values, economic importance and relevance to tourism; and (4) perceptions on heritage renewal and future prospects for heritage protection. I was flexible to delve into participants' experiences, probing appropriately whenever required, and allowing for the interview to take a free and flexible course with minimum control—a unique characteristic of

exploratory inquiry (deMarrais, 2004). This willingness to follow the detours of the interviews into new territories was acceptable because it inspired “insight, new ideas, clarifications, and revelatory observation” to reach to desired outcome (Stevens & Wrenn, 2013, p. 54). Following each interview, the interview records were scanned to learn emerging themes which further provided insights for upcoming interviews. I stopped seeking additional participants for interviews when no new information emerged from the participants’ narrative.

3.2.3 Research Key Informants

The term “key informant” (KI) is used in this study to designate the interviewees because informants not only talk of their personal experiences and opinions but also speak of the world around them (Stevens & Wrenn, 2013). As the study followed the massive earthquake, selection of informants for the study was a crucial part because my ethics commitment wouldn’t allow me to approach people who were vulnerable and who had personal loss larger than the loss of community heritage. Those who belonged to Newar communities around the three palace squares or any non-Newars who lived there for a long time and could speak of the culture and society, persons above 18 years of age, persons who didn’t lose their house, family members, or sustained serious injury, and those who voluntarily agreed to participate were selected for semi-structured interviews. Informants selected were people who had knowledge and experience about the focus of study. After the initial round of interviews, I employed network selection in which one informant located another who fell in the selection criteria and that informant referred to others likewise (deMarrais, 2004). This is also referred to as snowball sampling. KIs were initially identified both through the researchers’ existing local ties and through a post-earthquake

content review of daily editions of national newspapers and magazines (e.g. *The Kathmandu Post*, *The Republica*, *Kantipur*, *Nepali Times*, and *Himal South Asian*) and listed in a pool.

Table 4: Characteristics of key informants. Source: Author's fieldwork

Informant Characteristics	Hanumandhoka	Patan	Bhaktapur	Total	Percentage (%)
Ethnicity: Newar	6	12	10	28	85
Non-Newar	3	0	2	5	15
Involvement: Tourism	4	5	5	14	42
Non-tourism	5	7	7	19	58
Gender: Male	8	10	10	28	85
Female	1	2	2	5	15
Marital Status: Married	8	9	11	28	85
Not-married	1	3	1	5	15
Age: ≤ 40	2	5	2	9	27
41-60	6	4	9	19	58
≥61	1	3	1	5	15
Education: High School	3	1	1	5	15
Bachelors	4	2	4	10	30
Masters	1	6	3	10	30
Ph. D.	2	3	3	8	25

Prior to reaching Kathmandu, I had contacted a few potential participants. The initial informant pool was then built upon using the network/snowball technique. KIs are numbered throughout the study to protect their real identities. The final sample of key informants (n=33) ranged in age from 21 to 96 with 60% being between 40-60 years. To represent the three sites proportionately, I finished interviewing nine informants at HPS, and 12 each at Patan and Bhaktapur. The majority of informants were well-educated, with 85% having an undergraduate degree or higher. The interview sample was dominated by males (n=28/33) as a result of the network method of selection. Table 4 presents the characteristics of study informants. The informants were predominantly of Newar ethnicity, and were born and had lived most of their lives at the study sites. A few were outsiders and non-Newars but had lived there for a long period and had good

knowledge about Newari culture and traditions through their education and experience. Since the palace squares are popular cultural tourism destinations in Nepal, informants broadly involved in tourism and not involved in tourism were selected purposefully to derive balance in community perspectives. I acknowledged that fewer informants interviewed in depth would generate the understanding I sought. When I began to see similar patterns in responses and no new information appeared, I stopped seeking further informants (deMarrais, 2004).

3.3 Analysis and Interpretation

Returning Canada in late August of 2015 from the field, I began organizing my research data accumulated in the field. As a first step, I organized all the data creating different folders in my password protected personal computer for ease of access. Then I transcribed all interview records from Nepali to English language. Everything, verbal and non-verbal, was transcribed which resulted in a massive repository of 85,000 words. I also typed my field notes, categorized visual materials from the field and other relevant resources obtained from the field. Then I followed the process of conventional analysis and interpretation, popular in qualitative research (Creswell, 2014; deMarrais, 2004; Hsieh & Shannon, 2005). Following Hsieh and Shannon (2005, p. 1278), qualitative data analysis is conceptualized as a “method for subjective interpretation of the content of text data through the systematic classification process of coding and identifying themes or patterns.”

Although a number of processes and steps of analyzing qualitative data are suggested (Braun & Clarke, 2006; Creswell, 2014, Hsieh & Shannon, 2005), there is no universal consensus in processing qualitative data. With the procedures suggested by the scholars mentioned in mind, the analysis and interpretation undertaken in this study had a trajectory that was comfortable to

me. My initial reading of the transcript was just to familiarize myself with the content of the transcript. On my second reading, I highlighted the sections that fell under the broad research objectives and grouped them under separate sections. Then, I again read each section thoroughly, highlighting by hand the lines or phrases with different colors, making them bold, italics or underlined in as many codes as they appeared (see Appendix D for an example of coding). It helped me to navigate the data through the initially confusing and arduous process of analysis. Further down, I brought the parts that had similar colors or typographical forms together under certain categories. Fifteen different clusters emerged as such. After that I arranged parts of these groups in a process with various sub sections that would help me to develop paragraphs systematically. At this time, I merged similar and relevant themes together to build particular sections. Finally, I described each thematic sections incorporating informants' actual representative quotes as relevant.

CHAPTER FOUR: RESULTS

This chapter is divided into three parts closely associated with the study objectives set in chapter One. The first part presents the significance of Durbar squares and associated intangible heritage, and their influence on local communities' SOP. The second part presents the effects of the earthquake on the heritage and community perceptions on the loss of identity and attachment associated with it. The final part examines community perception of resilience based on their SOP.

4.1 Durbar Squares as Historical, Cultural, Religious, and Economic “Heartbeat” of Newar Communities

Durbar Square as the Root of Newari Culture: Interviews conducted with key informants confirmed that the Durbar squares in Kathmandu have facilitated historical continuity of an ancient way of life into contemporary times. According to KI 12 (2015) when there were few people and more resources in the past, the ancestors of Kathmandu's Newar community invested their leisure and creativity in the construction and creation of rich heritage that guided community lives into good things. During the Malla time, Newari art, architecture and culture flourished that resulted in the creation of majestic palace squares that were constructed to develop the facilities a fully developing city required according to the standards of the time. Past rulers made the squares for multiple purposes: “As an open space providing safety during times of natural disasters and enemies, as a center for performing religious and cultural functions, as residences for royal families, and for the grace for the city” (KI 14, 2015). Kings residing there used to be the center of everything, and the temples of highest deities that governed community lives were established around the squares. In order to please their rulers, local communities would show their traditional dances and performances to the kings at these royal courtyards.

Informants credited their ancestors, who practiced good *karma* and established good culture around these Durbar squares (KI 12, 2015). Over hundreds of years, these palace squares have carried the mainstream culture of Kathmandu and have remained “cultural, religious and administrative heartbeat. Even when the palaces are no more the political and administrative center now, the tradition of public performances is still alive. Therefore, knowingly or unknowingly, people still have faith in them” (KI 14, 2015).

Key informants frequently stressed that the Newar community and their lifestyle is different from others in Kathmandu and elsewhere in Nepal. For example, Newar’s prefer to live together, building their houses in a close cluster or around an open space with a courtyard in the middle. KI 4 (2015) stated that 85,000 Newars live in a tightly knit cluster within seven square kilometers of area in Bhaktapur. Such a settlement style, existing in Kathmandu for centuries, has shaped resident’s lifestyles accordingly that requires harmonious social participation in all rites and performances. The three cities in the valley consist of several *bahals*, or communal residential spaces (Hutt, 2010). Each *bahal* has an entrance that opens up to a large square or rectangular shaped courtyard, lined with multiple houses (Bell, 2014). In the past, these *bahals* consisted of vital resources such as a well or a stone fountain (*Hiti*), had designated areas for garbage disposal, a temple of communal worship, etc. Communal (*guthi*) farming land (away from city boundaries) was cultivated to grow food for the entire clan or community (Slusser, 1982). The Newars of Kathmandu take pride in these communal affairs even to this day. From small kids to older people, everyone is familiar with the community codes of conduct (good behavior, religious devotion, communal celebration, and solidarity at critical times), and are guided by their traditional beliefs and values. Such connectivity is clearly reflected in their social

and cultural behaviors such as going to temples, praying, conducting hymns and other rituals with high level of cooperation from each other.



Figure 11: Local people singing and dancing at Hanumandhoka (Left), and singing hymns at neighborhood temple in Bhaktapur (Right). Photos: Author.

As in the past, the tangible and intangible cultural heritage in and around Durbar squares continues to be vibrant today and is an important component of many resident's daily lives. People have been performing daily worships in the temples and they are still drinking water from the ancient water spouts. Informants stressed that palace squares represent most of the things in the lives of Newar communities, and their activities and behaviors are unknowingly shaped by the heritage landscapes. They prefer to get up early, go for a morning walk and ring the temple bells, sing daily prayers and hymns, and perform divine dances to please their gods during frequent festivals and *jatras* (KI 31, 2015). "These all things have linked us with our culture and religion and thereby taking us forward. Therefore, if these things exist, our society and life goes

ahead smoothly; in the absence of them we feel incomplete, lonely” said KI 5 (2015). In this regard, people’s lives and perspectives around Durbar Squares are governed by tangible and intangible aspects of Newari culture. KI 28 (2015) expressed:

Sometimes, I stay [at Patan Durbar square] when I am free. A feeling of living in the past comes. I feel as if I am inside an open museum, as if I am reliving the past that is 300/400 years ago. The monuments and temples that line the Durbar square are important in every function, from private functions like marriages, processions to *janko* that is performed when one ages, or becomes old. *Janko* must be brought at Durbar square. Any *jatra* in the city must pass the square, therefore, most people gather in and around the square during the festivals knowing that they would not miss the festival if they are at the square on that day. The intangible culture is so much related. Main *jatra* begins at Durbar squares in Kathmandu, Patan, and Bhaktapur. Therefore, the relation of durbar square with the community is both tangible and intangible.

Durbar Square as Ceremonial Ground: Among the resident Newars, Durbar square functions as the significant venue of celebrating *jatras*, festivals, and rituals. Considering Durbar square as the center, neighborhoods are divided into *thane and kone* (upper and lower neighborhood respectively), and this division influences resident’s local identities. Before the *jatras* begin, neighborhoods compete against each other in pulling the chariots. The winning party takes the ownership of chariot procession for that particular festival. It signals good omen for the winning community. KI 1(2015) said:

Being performed for many years, if the chariot is pulled to that (winning) side people expect heavenly blessings, expect more harvest . . . like people feel proud for being

victorious, they feel like getting more, more crop yield. . . they keep such feelings. Same feelings are seen when the chariot is pulled on the other side. There are two communities, the lower and the upper.

Informants believed that their ancestors made festivals and communal *jatras* as a break from usual chores and to set examples for good manners among community members. These breaks were seen as periods devoted to creative aspirations in the form of arts, crafts, cultural practices, etc. that revolve in endless cycle throughout the year in Kathmandu, and also as a way to stay away from anti-social behaviours (KI 12, 2015). In what they perceive as good culture, they congregate at Durbar squares to celebrate *jatras* and cultural performances. Every month they celebrate multiple festivals for special occasions. Over time, these *jatras* and festivals have become the radars that have guided their everyday lives and seasons, which is equally meaningful even today. KI 5 (2015) narrated how significant these communal celebrations are in their entire life:

From every day to month our life is associated with them. We know, this *nakha* (festival) brings showers, this *jatra* begins winter, and this *jatra* brings summer. Every *jatra* has taught us different things. *Jatras* are like calendars for us. The sun rises at this time, sets at this time, if it is a long or short day--all those things are influenced by our *jatras*. It has to rain at any cost because it is so and so *jatra* today. It really rains as well because our ancestors might have made them according to seasons. Therefore, all these things are deeply rooted in culture and life.

Durbar Square as the Center of Religious and Spiritual Power: According to the informants, the resident communities also consider Durbar square as the center of religious and spiritual faith. The shrines and temples of Durbar square are the residences of their deities and the centers of spiritual power. For instance, KI 27 (2015) expressed his belief that in the 7th and 8th century, Guru Padmasambhava¹, meditated at the place where Kasthamandapa stood (in HDS) before going to Tibet. Kumari², the living Newari goddess worshiped as the incarnation of the highest goddess, Taleju, also lives in the premises of durbar square. When the earthquake destroyed temples and shrines, informants believed that something had gone wrong in their religious observations that made their deities furious. For instance, KI 24 (2015) believed the tradition of Machhindranath *jatra*³, which involves pulling a ceremonial chariot across the city, was not observed in the appropriate manner (prior to the earthquake). According to tradition, the chariot pulling should begin when a band of flute players arrives, but KI 24 (2015) suggested this time the tradition was not followed properly and communities presumed, as a consequence, the earthquake occurred. Therefore, during the incessant aftershocks of earthquake, many residents chanted prayers and offered forgiveness prayers called *Deo Che* (Deo = god; che = house; gods' house, or appeasing the gods) in the temples around the communities to appease their deities as they perceived the situation as hints of impending dangers and catastrophes. Whether there was house, temple for god or not, continuity of worship was the most important thing for them. In

¹ Guru Padmasambhava (in Sanskrit meaning 'Born of the Lotus') is known as Guru Rimpoche in Tibet. He is credited as the disseminator of Buddhism in Tibet. His life is full of legends. Born in Swat valley (Pakistan) during 8th century as a child of eight years already, he wandered many places meditating and teaching Buddhism. Informants believed that Guru Padmasambhava meditated in Kathmandu (where Kasthamandapa, the largest shed at HDS, remained), got further enlightened and headed for Tibet.

² Kumari is the living goddess in Kathmandu. Young, pre-pubescent, Newar girl worshipped as the manifestation of goddess Taleju.

³ (Rato) Machhindranath, also called 'Bunga Daya' in Newari, is the greatest chariot procession of Patan. Machhindranath is the god of rain and compassion. It is the longest chariot festival in Nepal.

this way, despite physical earthquake destruction, people's cultural and religious connection with the heritage sites remained intact through religious behaviours.

Durbar Square as Central Market Place: I also asked the informants about the economic importance of these sites. Previous rulers invested significantly to construct these monuments, which are valuable for their direct monetary worth, as "a single temple would cost billions of Nepalese rupees" (KI 4, 2015). Informants also referred to the historical significance of economic activities at Durbar square. For instance, KI 27 (2015) noted:

Being the royal palace area since Malla times Kumari Tahasil Khana, like our finance ministry, was here. That office still exists [although it doesn't perform its usual function at present]. Kumari, living goddess, is here. She is, to tell in plain language, like finance minister. Such is this place. Apart from it, Newars were business people working for trans-Himalayan trade since Lichhavi era and durbar square was the central point.

As in the past, the squares continue to function as central marketplace where, except for luxury goods, most of the things needed from birth to death in a person's life are found in old shops that have been in operation for hundreds of years by multiple generations of Newar families, especially in Hanumandhoka Durbar Square. The tradition of having a local vegetable market from four to eight in the morning on the premises of Durbar squares still exists today. Therefore, for multiple reasons, the heritage sites are also significant from an economic perspective.



Figure 12: Local shops at an ancient monument at Hanumandhoka Durbar Square. Such shops are run by local Newars for centuries. A poster of Kasthamandapa (from which the name Kathmandu is derived) hanging from the upper storey was prepared as a campaign for its reconstruction.

In addition, most of the informants stated that the main economic significance of the Durbar squares today can be attributed to tourism. Many local people in the communities have jobs related to Durbar square tourism that provides their livelihood, since they work in local hotels and souvenir shops, or work as guides, tour operators, taxi drivers, or vendors. KI 20 (2015), a curio seller at HDS, said, “We stay here and run business. One person feeds ten family members. How lucky we are: We eat, drink, live, and educate our children by persuading tourists to buy our goods. All the needs of my family are met with my business here.” Income generation activities for many local people are thus possible through tourism which heavily depends on their heritage monuments. “Perhaps we can survive when they are there. Our culture is giving us survival, it is feeding us, it is doing all kinds of things to us. [Heritage monuments] have huge importance for us,” added KI 5 (2015). Also, indirect tourism-related economic benefits that spill over to locals who are not involved in tourism are equally important. Entry fees to the

monuments, charged to foreign visitors, are used to fund community welfare activities and for the upkeep of the heritage monuments. Low income families pay lower college fees for their children due to the benefit acquired from tourism activities in Bhaktapur where the municipality has done exemplary things with the entrance fees, KI 4 (2015) stated. KI 4 (2015) also explained how tourism has helped Bhaktapur to prosper which is somehow similar in others as well:

Economic significance is indescribable. From the thousands of [dollars of] entrance fee generated from foreign tourists, Bhaktapur municipality is more sanitary and traffic free. Same money is used as subsidy to encourage maintenance of culturally sensitive private houses along the streets. Day care centres, health posts, clinics, Khowpa College, and the Khwopa Engineering College are also subsidized. Now they are planning to open a university. They have done very well. It was in Bhaktapur they began collecting entry fee some 20-25 years ago. They started from \$1 which is now \$15 per person. Patan Durbar Square, Kathmandu Durbar Square, and other sites have also done similar things.

Cultural Heritage, Identity, and Attachment: Interviews revealed communities living in the Durbar square neighborhoods have their identity and attachment associated with Durbar square. Communities have historical, cultural, and spiritual roots stretching back thousands of years to a time when their ancestors cultivated good manners, built temples, palaces, and other structures, and continued cultural and religious functions around them. Over time, new generations inherited the traditions of their predecessors, and developed them further. Life in the nearby communities revolved around these heritage sites, with locals praying, worshipping, celebrating and sharing



Figure 13: Locals fervently celebrating Bisket jatra in Bhaktapur The tallest pagoda temple of Nepal, Nyatapola, in the background. Source: Earthbound Expeditions, n. d.

their pains and pleasures right up until today. Who they are and what they value is clearly reflected in a lifestyle which is interwoven with the monuments. Therefore, informants related Durbar Squares and associated intangible heritage as representative of their personal, community and national identity. Expressions such as “these heritage monuments provide us our local identity” (KI 6, 2015), our heritage is an identity of [Newars], not in personal sense but for the nation's identity” (KI 8, 2015), “it tells our identity and history not just to us but to the world” (KI 18, 2015), and “Durbar square is the place of identity for local communities” (KI 28, 2015) were common among informants.

Born and raised around Durbar square, community members have spent their memorable moments of life and have developed deep attachment. As children, they collected beautiful memories of playing around the palace square often with the chariots that are used in *jatras* (ceremonial processions) and festivals. Carried on the back of their parents, they observed colorful celebrations of festivals and cultural dances and later taking part in these celebrations. Children always looked forward to the ceremonial days and festivities such as *Indra Jatra* and

Gai Jatra that Newar communities celebrate with much fanfare. Deep imprints of such joyous occasions remain in cultural psyche of Newar inhabitants in Kathmandu. The significance of these festivals has passed on to new generations verbally and through the actual practices during the festivals. Participating in cultural activities, Newars have developed intergenerational relationship with the place that has inspired them into the course of their lives. As they grew, they contributed to the care and conservation of these heritage monuments and are involved in all kinds of cultural performances with communities as larger families. Informants recounted their deep attachment with the Durbar squares with reference to how they grew in the place and what they feel today being at or around there as follows:

- I grew playing around this place. Studied here. I didn't leave the old house even though my brothers went elsewhere. I have very deep attachment with this place (KI 6, 2015).
- I have various relations with this place. My mum's parents belong to the family of "*Pulunkisi*"[the elephant that participates in the procession of *Indra jatra*]. Since childhood, I participated in *jatras* with my mum's family. Personally my family has family relation with Ashok Vinayak *Guthi*. I belong to the community that actively remains busy during festivals and celebrations in this core area. Being a member of local Newar community in Kathmandu, specially the 32 *tole* (neighborhood) here, I know much about the heritage and have deep attachment (KI 25, 2015).
- I'd say, our generation from my father in my family, we have kind of blood relation with the heritage sites. It is the place we were born, played, grew, study, and write regularly about (KI 8, 2015).

- I get a kind of spiritual uplift passing around there . . . heart becomes serene. Returning from somewhere, I feel quite relaxed when I take rest under the sheds in the square. It feels really great. Who has taken rest there, knows how it feels (KI 14, 2015).
- It feels blissful to come here. I like to sit here in my spare time. I am attached with the culture here. When I come here, I feel like forgetting myself (KI 29, 2015).
- Being there is very enjoyable, stress would disappear. Not just mine, the feeling is same for whoever I have heard. It feels proud (KI 24, 2015).
- Even if I came here in deep hunger, my hunger would disappear when I walk around the premises. I am destined to stay here (KI 1, 2015).



Figure 14: The main facade of Hanumandhoka Durbar Square (upper left), Bhaktapur Durbar Square (upper right), and Patan Durbar Square (bottom) three months after the earthquake. Photos: Author.

4.2 Effects of the Earthquake on Heritage and Local Perceptions of Loss

4.2.1 Effects on Tangible Heritage

Destruction of heritage monuments at Durbar square has disrupted the communities' identity and attachment, causing deep loss of place, informants suggested. The death of or injury to family members, and destruction of their shelter was unbearable, but equally painful was losing their

heritage monuments. What they took pride in as the great cultural wealth of the community and the nation crumbled in the violent shakes of earthquake. What once were beautiful oases of

Table 5: Monuments affected by 2015 earthquake in three Durbar Squares of Kathmandu.
Source: Author's fieldwork and personal communication with the Department of Archaeology, Nepal.

Durbar Square	Completely Damaged (Century of Construction)	Partially Damaged
Hanumandhoka	Maju Dega (17 th) Trailokya Mohan Temple (17 th) Kamdev Temple (18/19 th) Kasthamandapa (12 th) Vishnu Temple (North of Maju Dega, 17/18 th) Shiva Temple (Opposite to Taleju, 17/18 th) Pratap Malla Column (17 th) Radha Krishna Temple (17 th) Kakeshwor (17/18 th)	Bashantapur Tower Taleju Temple Kampukot Majority of the monuments were structurally damaged at Hanumandhoka Dozens of private houses that belong to Protective Monument Zone
Patan	Char Narayan Temple (16 th) Shankar Narayan Temple (18 th) Mani Mandap (17 th) Radha Karishna Temple (18 th) East Façade of Sundari <i>Chowk</i>	Agam Temple Taleju Temple Bahadur Shah Palace Bhimshen Temple Degu Taleju Temple Keshab Narayan Temple Lampati Krishna Temple
Bhaktapur	Vatsala Devi Temple (17 th) Silu Mahadev Temple (17 th) Kedarnath Temple (18 th) Western Façade of Durbar Square (17 th) 25-30 traditional houses of protected monument zone (19/20 th)	Lal Baithak (20 th) Nyatapola Temple (18 th) Bhairabnath Temple (18 th) Yesamari Sattal (18 th) Art Gallery (20 th) Siddhilaxmi Taleju Temple

ancient community architecture in the modern jungle of densely-packed city dwellings, turned into rubble within a minute. Seeing open sky instead of tall, embellished monuments created a physical and psychological emptiness that left the residents like orphans who lost their guardians. “Fasi Dega, Vatsala, Kedar Nath [major temples at BDS] fell. It was like missing a hand, an ear or an eye of my own body, like losing my own organ,” lamented KI 31(2015). Many could not help crying over the loss. Informants expressed the loss at both the personal and collective level (See Table 5 for the list of monuments damaged at three Durbar Squares).

Some representative expressions of loss at the personal level by the informants are included below:

- It was like missing a hand, an ear or an eye of my own body. Like losing my own organ. What a beautiful square it was, full of temples! Where there was temple I could see sky like looking through an x-ray paper. It felt emptiness (KI 31, 2015).
- Felt like crying when I came here. It felt so boring. It was like a desert. I didn't want to come and when I came there was fear (KI 19, 2015).
- When the beauty of palace square is gone, it feels tasteless when I go to Durbar Square now (KI 17, 2015).
- When I saw open sky instead of Phasi Dega at the Durbar Square, tears rolled from my eyes. . . When my “*sampada*” (heritage place) gets hurt, I feel its pain (KI 14, 2015).
- When the days passed by, each time I felt like crying whenever I visited this place (KI 6, 2015).

- I felt like entering an unknown place. I could not recognize it as Bhaktapur. I was not sure if it was the same place we lived (KI 1, 2015).
- I felt like crying when I saw these structures fallen after the earthquake. It was terrible: mind went blank, tears rolled down. I could not do anything. All around, everything was fallen. It was like losing my own house (KI 29, 2015).



Figure 15: Maju Dega temple at Hanumandhoka Durbar Square, before and after the earthquake. Photos: Author.

Feelings of loss of heritage place were equally profound at the community level. Informants were nostalgic of the beautiful architecture of temples, palaces and pavilions their ancestors had made. They lamented that the “crowns of the beauty was gone” (KI 13, 2015) making the valley disfigured. They also felt that the typical appearance of Newar communities could be lost forever, which possibly could disconnect them from the relationship they have with the outside world and from the ancient traditions (KI 16, 2015).



Figure 16: Left, Kashtmandapa before the earthquake (Photo: Wikimedia, n. d.) and right Kasthamandapa after the earthquake (Photo: Author).

The effect of losing the heritage monuments was perceived by locals as very difficult to heal because they were apprehensive that the future generation could lose significant sources of connection to their ancestors' creations. Informants expressed fears of a deep loss of heritage at the community level in different ways as follows:

- It is same as losing our brothers and sisters thousands in number; it's a great tragedy (KI 21, 2015).
- An obstruction stood between our connections with the world community. Our heritage monuments are very advanced. A gap occurred for those who wanted to take lesson from it. It is an irreparable loss (KI 16, 2015).
- The inhabitants here lost glorious heritage of their past (KI 14, 2015).

- Newar community has been like a goat offered at the altar of god. There is no place not affected, earthquake is still chasing us. It feels very gloomy when they [monuments] are not there. We also have to pass away one day but it is the place loved by the world (KI 12, 2015).
- Rubble was scattered everywhere. It is really difficult to heal this wound, in my opinion (KI 1, 2015).

Informants were apprehensive of being able to recover from the losses because they believed the monuments represented the traditional, historic fabric of the communities that defined them.

They were worried whether the beauty of the communities would be restored in the reconstruction process, and some worried that the lack of reconstruction could bring catastrophic consequences at personal, social, and national levels (KI 31, 2015). What also panicked some informants was the probable loss of the traditional appearance of houses that normally would have strings of red chillies spilling down the windows, garlands of green vegetables suspended



Figure 17: Top, Vatsala temple in Bhaktapur before (left) and after the earthquake (right). Bottom, Taba Sattal (shed) at Bhaktapur Durbar Square before (left) and after the earthquake (right). Photos: Author.

from the cornice of houses, artfully stacked corn in the façade of houses, and similar other things that defined a typical Newari house (KI 31, 2015). Associated in every aspect of their life, losing heritage monuments was similar to losing their parents. KI 20 (2015) said the following words pointing at the empty space both on the ground and above that used to be occupied by Kasthamandapa and Maju Dega at HDS:

This place is like our parents. If it is not there, there is nothing for us. They are our source of earning livelihood, but their significance is greater than that. We may make money again but the tradition cannot be earned if it is lost. There is big difference between having and not having parents. When I come here, I do not want to stay here. It looks barren, like without parents. I feel like an orphan. I don't feel happy even if I open my shop.



Figure 18: Images of Char Narayan Temple before (left; source: Awesome Inc, n. d.) and after the earthquake (right; source: Author.)

4.2.2 Effects on Intangible Heritage

Informants were deeply worried about the loss of not just the beautiful, tangible monuments but also the potential loss of intangible heritage associated with them. There are numerous festivals, *jatras* and traditional performances associated with the tangible heritage monuments among Kathmandu's Newar communities. When the built forms sustained serious damage, associated prayers, rituals, celebrations were affected too, although informants suggested these may be revived later. Informants stressed that communities were deeply concerned that the intangible traditions could be forgotten if they remained idle for too long. Since the aftershocks and fear of another big quake persisted for months (I reached the field two months after the first quake. Aftershocks were frequent, occurring almost every day, some with epicenters right within the valley), people were not allowed to go to the temples and stupas for prayer due to ongoing fear. Major festivals such as *Gai Jatra*, *Indra Jatra*, *Matiya*, *Krishna Janmastami*, *Bhimshen Jatra* were approaching, and informants said residents were worried that they might not be able to perform these festivals with equal grandeur of the past.



Figure 19: (Left) The chariot of Rato Machhindranath (the rain god of Kathmandu); This 2015 chariot was left in the middle of road in Patan due to the road blockade caused by the earthquake. (Right) One of the alley ways in Hanumandhoka Durbar Square after the earthquake. People could not perform worships and rituals, or celebrate jatras and festivals due to such obstructions. Photos: Author.

Following the earthquake, informants noted that local residents cited many reasons preventing them partaking in worships and festivities. The reasons included: Psychological fear, loss sustained at personal and family level, and financial losses caused by earthquake. However, most deeply believed that these traditions (of *jatras* and festivals) would resume as usual with the passage of time. The following statements are examples of worries informants expressed about celebrating festivals during the troublesome period:

- *Gai Jatra* is coming near, in 15/20 days. It will be performed anyway but the effects [of the earthquake] will be reflected. People cannot perform *jatras*, festivals, and rituals] because of the fear of aftershocks. Economic reason may also be there. Celebration of festivals and *jatras* will be done in small scale. It takes time for them to recover (KI 7, 2015).

- The *Matiya* management committee went around all places some days ago. *Matiya* might be reduced by half because all places are not accessible now. This year, we will not be able to reach everywhere and will limit our celebration only to accessible places. People's expectation of the duration of celebration may rise from four hours to five hours but not seven or eight hours. But, from next year onward, I think it may go as usual (KI 8, 2015).
- Performing *jatras* among the destroyed monuments will not be interesting, I think. *Gai jatra* is quite near. I think, this *jatra* might not be performed in its usual grandeur (KI 17, 2015).
- *Matiya* has to be shortened and it is not sure whether we could perform Bhimshen *Jatra*. It is risky to celebrate *Krishna Ashtami* too. It is an emergency now. How to make them functional is our concern as we can not do them fully now. . . We could not give continuity to our intangible cultural heritage. For instance, it is uncertain what happens in this *Indra jatra*, we could not pull *Kumari's* chariot too (KI 25, 2015).
- Look, this year's *Gai jatra* is coming near. What cultural trails of procession [the streets along which the *jatra* procession goes] we have for it are in a dangerous condition. Therefore, I feel, local people have lost the Newar architecture [and associated intangible tradition]. It is a matter of tomorrow whether we will be able to resume them or not. Until now social, cultural activities were continuing before the quake. These activities, I think, are in danger. We lost not only the tangible heritage, time has come for us to lose intangible heritage as well. When that heritage is lost in its physical form, its related intangible heritage also remains idle (KI 14, 2015).

4.3 Community Resilience: Revival from the Rubble

4.3.1 Salvation of Historical Artifacts from the Rubble

Despite the recurring threats of aftershocks and the destruction left by the earthquake, informants reported, local residents were acutely aware of the importance of securing the artifacts of the heritage monuments buried in the rubble. While the search and rescue of the people buried in the debris was ongoing, community members also began searching for and retrieving valuable artifacts buried in the debris. Many people came forward to join in the efforts. For example, KI 28 (2015) expressed his prompt action in the following words:

As I turned to the temples, very valuable and historical things had fallen. I didn't care what others would say. By 1:30 [1½ hours after the first quake], I brought all the parts of the temple inside the museum. That was our first rescue. Then I locked the gate [of Patan Museum] . . . Then local community barricaded it with rope. They didn't allow anyone to enter the Durbar square for two days. Next day onwards, we began picking up the bricks, stones, idols, and clearing the rubble away.

Despite the scale of the destruction, community members were motivated to think about the safety and security of the valuable materials that could be useful in future reconstruction of the heritage monuments. KI 15 (2015) from Patan said that he was worried about the probable loss of the valuable objects lying buried in the debris and called his friends there in the evening of 25 April, the day of earthquake, to safeguard important things. The very next day, they called all the concerned people in Patan to a meeting and discussed what they could do to save the valuable artefacts. Patan Durbar Area Consumers Committee which has members from local community joined in efforts of the Patan Municipal Office to save the useful artifacts of the fallen

monuments. The committee took responsibility for securing the materials of all the temples. The Kathmandu Valley Preservation Trust (KVPT, an NGO based in PDS area working at the local level to preserve heritage monuments in Kathmandu) contributed a lot to this joint effort, which was appreciated by many informants. KI 6 (2015), one of the participants in the joint effort said: “Truly as a Patanite, I can proudly say that no single element of the destroyed structure in Patan is lost . . . immediately local youths protected Durbar square day and night for three days before police was called.” Community members remained equally active in Bhaktapur and Hanumandhoka too. Concerned that the artefacts might go to the wrong hands and be smuggled away from Bhaktapur, informants reported that local residents secured everything from the debris of Vatsala temple. Local people saved all the elements of Vatsala at one place and didn’t



Figure 20: Historical artifacts of the fallen temples kept inside Patan Museum (left) and Hanumandhoka (right) by the local communities. Photos: Author.

allow others to touch anything. “Vatsala Temple fell, we made inventory of all the elements of it and kept. It is an important task. I was involved in it” (KI 14, 2015). From next day onwards, the municipality staff began clearing the rubble in the palace courtyards. Being the largest and most

damaged site, it was not as easy to salvage all the materials to the expertise and efficiency of Patan or Bhaktapur at Hanumandhoka. Situated at the most crowded area of the valley, hundreds of people were crushed under the heritage debris at Hanumandhoka. Search and rescue of lives was primary but locals' concern and care for the heritage materials remained equally important. Stories of historical materials being taken away were spread. Therefore, locals remained vigilant there. KI 25 (2015) spoke of how vigilant locals remained at Hanumandhoka:

When I arrived here, people here were not worried about their family, their injury, their food, or shelter. In the case of Nepal, it is very mysterious. In foreign countries human rescue is most important. Priority for heritage comes at last. But in Nepal it came as special example. For instance, people were seriously worried about important idols, woodcarvings from the very next day. They were saying that the DOA had not arrived there to preserve these valuable things. The public were so aware to ask that DOA should take all those things and keep safe. They were so concerned that they noticed people taking away temple wind bell, *phaigan*. They followed a tourist who took it in his bag, found him, and brought the bell back to the concerned authority. The public appeared very aware in this regard. We began documenting, keeping the timbers safe inside. We were so busy we didn't have time to think about our family. [Three months after the earthquake] we are still busy.

4.3.2 Perspectives on Earthquake-Resistant Heritage Reconstruction

One of main purposes of the study was to examine the local perspective on the reconstruction of the heritage monuments that the earthquake destroyed. Interview questions focused on how local communities would prefer to reconstruct their heritage monuments. Right after the disaster,

while emergency humanitarian rescue was still ongoing, local people around the Durbar squares began mulling over the reconstruction of affected heritage monuments. KI 6 (2015) said that they had an interaction programme in July (three months after the earthquake) to consider community opinions on how to rebuild the heritage place in Patan. KI 14 (2015) noted that the second biggest aftershock of 7.2 magnitude occurred on May 12, 2015 when the community was attending a similar interaction programme in Bhaktapur. Similarly, local youths united to raise awareness of heritage renewal. “Local youths have released an album about heritage revival (in July 2015). They have created songs to unite youth energy. It is a good thing. It positively inspires Nepalese community” (KI 14, 2015).

Most of the informants suggested that there should be common consensus in the modality of the construction, and that community seniors who are experts in such matters must be consulted. They felt responsible for the reconstruction, but were aware that they could not decide anything that would affect the originality and the right of future generations to have them in the forms that the ancestors had made. KI 25 (2015) spoke of such opinion as follows:

Experts should interact seriously and make plans for reconstruction. All concerned parties should be included in it. We experienced disaster and we have to reconstruct; it doesn't mean that we are all in all for this. I want to say it to all that we should hand over our original culture to the future generation. We can not change it at all. We (this generation) don't have all the authority to decide. We should provide coming generation to have a chance to see these classical structures. We shouldn't finish them all now.

A few of the informants expressed their desire to follow everything as their ancestors had done. They stressed that timber, clay, mud and mortar are timeless and only such things can guarantee the authenticity of their heritage structures. KI 13 (2015) stressed, “In my opinion, they cannot, shouldn't, and mustn't be allowed to change anything. They should recover the old bricks, wooden structures, and the statues.” He expressed that some community members were dissatisfied with the way reconstruction was handled in some places, which had undermined the traditional method. The value of traditional construction over modern was emphasized too, and that the reconstruction itself would be a moment of learning from the past. “As far as architecture is concerned in construction, our own traditional technology is appropriate,” said KI 14 (2015) and added that “Major things are their pillars, joints, and beams. In fact, it is *chukul* (angle) technique⁴.” Maintenance of originality was the prime focus as they believed that ancestral techniques were also equally seismically strong and it was the identifying factor of the monuments. KI 17 (2015) who believed on the above ideas added, “We can change timber into technology. Engineers know it more. . . we can make nails and angles from wood, Nyatapola⁵ has it.”

While being aware of cultural authenticity, the majority of the informants were serious about the necessity of incorporating earthquake resistant design elements in reconstruction. For this to happen, the informants stressed the need to juxtapose traditional wisdom with modern technology. How to make the inner construction of cultural monuments/buildings more robust

⁴ The angle (*chukul*) technique used in the construction of heritage monuments in Kathmandu refers to the use of wooden angles (brackets) to join wooden structures instead of metal nails or bolts. Magnificently carved wooden angles strongly support and strengthen the structures of the buildings. It is typical, tradition of Newars in Kathmandu.

⁵ Nyatapola, the tallest pagoda temple of Nepal in Bhaktapur, was made by Bhupatindra Malla in 1702. It was not affected by the earthquakes of 1934 and 2015. Informants frequently referred Nyatapola as the testament of earthquake resistant technique of Newari construction.

was a major concern as altering the outer appearance of the monuments was out of question. Informants had wider consensus to fuse modern technology with traditional techniques because almost all the recent reconstructions done in these palace squares had survived the earthquake. The KVPT had renovated parts of Mul *Chowk* and Sundari *Chowk* in Patan, reinforcing traditional structures with earthquake resistant technology. Similarly, a German project had done the same for the last fifteen years in Bhaktapur. These recent renovations had shown that it was possible to preserve traditional appearances while reinforcing core structural strengths. As local communities wanted the monuments to be 8-10 Richter Scale resistant in the future, they were flexible about using metal and steel belts on non-visible parts of monuments. Earthquake is a frequent phenomenon in Nepal and the cost of reconstruction of the precious heritage monuments is huge. Informants reported that communities did not want billions of Nepalese rupees' investment go in waste in the next 80 or so years. Therefore, they were willing to have a robust blend of latest earthquake resistant technology with traditional technology. Although everything has its date, the Newar communities are well aware of the earthquake phenomenon, as KI 7 (2015) remembered: "It is told in *Geeta* [the sacred text of Hindus], *Sambhawami yuge yuge*. Which means, I [earthquake] keep coming again and again." The following excerpts from the informants represent that the communities look forward to earthquake-resistant reconstruction of heritage monuments with a blend of traditional wisdom and modern technology that would not affect the vernacular outlook of the structures:

- Now, instead of putting bricks as inner support, metal support should embolden the structures from inside. Outwardly, it has to be same but inwardly stronger things should support to resist 8-10 Richter scale quake even after 200 years (KI 1, 2015).

- Modern technology should be incorporated to make them quake resistant while preserving their original form and outlook. The original appearance should not be altered. Techniques of making them stronger could be incorporated. I mean, modern technology should be incorporated to make them quake resistant while preserving their original form and appearance. It doesn't make huge difference, in my opinion, because the earthquake has shown that we could not rely only on traditional materials. It is time to think in a new way (KI 3, 2015).
- We need to mix both, incorporate new styles in the old tradition. Otherwise, the next earthquake will collapse everything. We shouldn't construct for the next quake to destroy our heritage monuments. With olden looks, necessary things should be incorporated inside to make them stronger (KI 5, 2015).
- We have the technology now what was not available then. We have to keep adopting many things (KI 6, 2015).
- For some matters, engineers also can provide ideas for the foundations but for above the ground, traditional ideas will make them better. As such our history remains intact and the future generations will not doubt on the authenticity (KI 11, 2015).
- We heard, 80% could be reused. According to time, seismic standing technology should be enforced inwardly, like keeping steel belts. We should find middle way. If there is no durability, it will be a waste of resources (KI 15, 2015).
- UNESCO is right in its own ways [as it focuses on entirely local materials and technology] but we have to be ready for another earthquake in next 80-90 years. We cannot spend billions of rupees to let next earthquake destroy our heritage in 80 years (KI 25, 2015).

- If modern technology meets with our traditional technology, we should take them together. Outlook should be clear and we should be able to say to the public why we did this (KI 28, 2015).
- Both modern engineers and traditional artisans should be coordinated because we need both strength and beauty (KI 29, 2015).
- What makes the buildings to sustain 8-9 magnitude earthquake inwardly should be followed but the outer layout should reflect tradition (KI 31, 2015).
- Number one, it has to be earthquake resistant. Number two, there has to be Nepali style. Number three, it has to be affordable (KI 18, 2015).

The three palace squares of Kathmandu (HDS, PDS, and BDS) together with other four sites of the valley are inscribed as UNESCO world cultural heritage as having outstanding universal value as creativity genius of humanity (KI 26, 2015). When I asked the informants what they thought about UNESCO's role after the earthquake destruction of heritage monuments, many expressed that locals should be more concerned about the future of the heritage in which UNESCO can be a guiding body for maintaining the integrity of the heritage sites. They believed that UNESCO's general rules are maintained but more importantly restoration work had to incorporate local and national traditions. "If situation requires earthquake resistant expertise, it has to be done through UNESCO because we cannot do it without their permission," said KI 18 (2015) and added that if UNESCO can bring better technology than theirs, it would be worthwhile. Informants were aware that UNESCO had kept the palace squares in the endangered list in the past when the local community and Nepal government could not follow UNESCO's

general rules. KI 26 (2015) summarized the collaborative give and take between local community, Nepal government and UNESCO as:

After UNESCO included the palace square in World Cultural Heritage, much responsibility is theirs too. Whether to do or not is their concern. They made norms to maintain [Durbar square] in certain way, conserve oriental art, not to disturb its outer outline, not to increase height [of surrounding private houses], not to install shutters on the shop doors, and preserve the window architecture like *tiki jhyal*, *tri jhyal*, and *pancha jhyal* [uniwindow, triwindow, and pentawindow respectively] and not to replace them.

UNESCO could not take responsibility of any deviation from the norms. Nepal is also the member of UNESCO. So, it has to obey their rules.

After the earthquake, informants stressed the need to review the rules that were made for the general situation. Some informants said that UNESCO might not allow locals to alter the rules of construction because it is committed to the use of local materials. They also suggested that time has come to think over the rules of UNESCO due to the earthquake. When it was necessary to make structures more robust preserving typical flavor of Newar art and architecture, informants sought the middle way. KI 6 (2015) remembered what he saw in Japan where they have kept the outer ambience intact but inner structures had been reinforced using modern technology. Likewise, it was necessary to think critically to save the ancient art and culture from future disasters. KI 26 (2015) had the following opinion:

We are not allowed to change the appearance and ambience of Durbar Square. UNESCO says it the "creativity genius of the humanity". It is not beautiful or ugly--finest arts and architecture is there. If they [UNESCO] don't want to keep them [heritage monuments]

for the fear of earthquake, you will lose your identity. Make them as they were. Interior, make as you like- that is another matter. For instance, don't disfigure the outer outline of an oriental house but they don't mind changing the interior. At least, outer beauty, identity is needed. UNESCO asks to protect it and does not allow you to do anyway you like.

4.3.3 Perspectives on Hope and Opportunity in the Aftermath of the Earthquake

Informants reported that communities, despite unprecedented loss in the earthquake, took the earthquake as an opportunity to rebuild the heritage monuments better and more robust so that they would not have to worry about losing their invaluable assets in future earthquakes. They wanted to enhance the strength of the monuments with modern technologies to make them more resistant, and were looking forward to cash this opportunity. They remembered that their cultural wonders that have been the asset of the world community are the result of frequent earthquakes of the past. Previous earthquakes felled and the rulers, especially during the Malla period, reconstructed them with greater efficiency and grandeur. Without earthquakes, KI 14 commented, “Fifty-Five Window Palace wouldn’t rise, Five Storey Temple (Nyatapola) would not rise.”

There is a proverb in Newari: "*Mapanka prabhawi mukhu, mathuka mathukaf nhow nirman ji majhu*" meaning that “without blocking, water cannot increase its speed”. KI 4 recalled this proverb adding that “new construction cannot be done without demolishing old. It doesn't mean we have to demolish. All the building materials have their age, like human beings. We need to reconstruct using new materials when they become old.” Informants were full of hope in their

assertions on the ground that they had more community spirit and cooperative feelings learned from their ancestors. Taking the earthquake as “a gentle warning” (KI 17), they projected optimistic outlook for recovery. “Feeling of working in group is here. I think there is a future for prosperous Nepal - Nepal with its own art, culture, and architecture will rise again,” said KI 14 (2015). Citing recent earthquakes in Haiti and Gujrat, India, the informants often hoped for expedited, successful recovery learning lessons from previous domestic and international experiences. It was not the first time in Nepal that earthquake had destroyed the heritage monuments. KI 14 (2015) expressed:

People came thus far due to revivals. Need to take it [the earthquake] positively. At this time of emergency too, these people are hopeful about its solution. Earthquake happened, it is a natural thing. It brings development as well with it. Our monuments fell, our skill is not dead. We have skill. We can make thousands of such monuments again. I am hopeful. Likewise, people here are equally hopeful. Therefore, earthquake has provided us a grave lesson this time. This earthquake has provided that opportunity. Definitely, people here are aware in this matter.

Similar expressions of renewal and hope were observed when discussing the prospects for intangible heritage. Several informants indicated that feelings and apprehensions of loss will positively inspire them to care for their intangible heritage and cultural practices. For those who were not serious about their tradition and culture, the earthquake allowed them to remain aware of their importance and realize the identity associated with them. When asked what outlook they had about the revival of their intangible heritage, informants were quite confident that it will not suffer any loss and will remain intact, as expressed in the following statements:

- From the *Lichhabi* times to the present, whatever *jatras* and festivals are performed, the tradition has never discontinued although many earthquakes have occurred in the past. History shows it (KI 9, 2015).
- There will not be any effect in the intangible heritage, I say 100% (KI 28, 2015).
- There will not be any loss of culture. In my opinion, people may be tired to some extent but it will not disappear. Even though our heritage is destroyed, our emotional relation with the culture, with the deities and temples is still alive. It will give positive vibes in the future as well . . . Intangible cultural loss will recover sooner than tangible one. I have cooperated as much as I could (KI 7, 2015).
- I say, there is nothing irrecoverable. Rather than telling this temple is so ancient, we will say the materials of this temple are so and so old. We might need to say that the plinths were original and rest of the structure was made later. The thing lost is the initial, original construction but not the materials or design of construction. (KI 6, 2015).

While being apprehensive about the probable discontinuity of the festivals, *jatras*, rituals, and performances associated with the fallen heritage monuments, informants were not in despair about their possible abandonment. Nepal suffered many natural and man-made disasters in the past, but the informants did not remember any instance in history when they had to discontinue their traditions due to disaster. The fear of losing the tradition impacted them positively not to lose their courage which inspired them to continue their traditions to the extent and capacity possible. Therefore, despite the temporary absence of temples and stupas, the homes where the deities resided, informants suggested devotees were happy to visit the shrines even though they were under the open sky. For instance, Kasthamandapa and Maju Dega in Kathmandu, Char

Narayan and Laxmi Narayan Temple in Patan, and Vatsala and Phasi Dega in Bhaktapur were completely destroyed, as observed during my fieldwork. The shrines of these temples were exposed out in the open, but devotees came there for daily prayers, made offerings, and showed reverence to the deities by prostrating on a daily basis. KI 18 (2015) from Bhaktapur expressed how anxious people were to resume their cultural performances around those monuments:

What has surprised me is: 8-10 days ago, a group came to me. “We could not do our younger kid’s ritual performance (to symbolically allow him into adulthood),” they said.

It is not the matter of *stupa* but of the ritual. It touched me and I assured them to generate assistance. Still, cultural factors have such significance in daily life. They didn’t stress that their stupa was destroyed but they were worried that they could not perform their rituals because of destruction.

Many informants in Patan also referred to the continued presence of people at the shrine of Char Narayan Temple which was completely destroyed and then closed by the city as a ‘danger zone’. Still, local people came for daily *puja* that compelled the local authority to clean the area and allow the devotees to continue their *puja*. They thought it will help heal community’s emotional and psychological feelings of loss. Similarly, Krishna Mandir, the temple fully made of stone, in Patan was supported all around by long poles. Oblivious to the ‘danger zone’ sign, a group of women and older people were singing hymns in the afternoon. In the inner alleys of Bhaktapur too, people were observed singing hymns and prayers at temples.

Availability of Construction Artisans and Fund: When scores of monuments need reconstruction from their foundations and up, and hundreds need structural reinforcement through retrofitting,

the early question was whether Kathmandu had enough skilled artisans required for such purposes. Many of the historical monuments in Kathmandu were made centuries ago and no new buildings were added in the last 200 years. When asked about the availability of skilled workers, informants said that enough people were available to work in the heritage sector in Kathmandu. “According to Newari papers, we still have talented artisans for woodcarving and idol carving. They are in Newari communities of Khokana, Kirtipur, Bungmati, Bhaktapur, and Patan,” said KI 27 (2015). Informants were confident that it was possible to reconstruct the monuments in exactly the same way as they were made and there was no doubt about worker’s efficiency. Also, they added that the projects of heritage reconstruction would renew the skill of the artisans as well as arouse interest in new generation to learn the skill as there could be job opportunities in the sector. KI 17 (2015) said that he has opened a vocational school to teach many aspiring young persons the skills of traditional Newari architecture. He stated:

We don't need a thousand people at once, we have to begin working. Luckily, I have nearly 150 workers. I felt the lack of skilled workers, and have opened a vocational school myself last year. Now, we have 80 students. This year, we have plans for producing 2-3 hundred graduates through a crash course. There is no scarcity of skilled workers.

Reconstruction of heritage monuments is a complicated issue in Kathmandu because of the cost of materials and cost of construction artisan labor. Informants were aware of the high cost of timber and construction artisans. While heritage reconstruction would not be the primary concern of the Nepalese government, informants suggested communities see tourism as the source of funds for heritage reconstruction. The entry fee system for foreign tourists which began in

Bhaktapur 25 years ago is now followed by almost all the UNESCO heritage sites in Kathmandu. Three palace squares earn a good sum of money annually. Utilising funds generated through tourist entry fees, Bhaktapur had been investing in heritage conservation projects. KI 4 (2015) said, tourism can be a savior for these monuments:

When money generated from foreign visitors was properly utilised, it was not necessary to wait for the Nepal government to allocate funds. After that, we became able to protect our heritage ourselves. In the same way, if we can manage the source for these heritage monuments and collect funds, we can do the work ourselves. We can take it as a good example.

The informants stressed that money generated through heritage tourism should be spent in the short term on heritage renewal and management. Although it was too early to ask for the timeline for the reconstruction and reparation of heritage monuments, informants hoped that the process would start soon after the end of the monsoon (i.e. approximately August 2015). When asked how long it might take for the completion of the projects, informants suggested between two and four years in Patan and Bhaktapur where there was no significant damage to the monuments. In Hanumandhoka, where damage was much more severe, they projected a longer time frame. KI 8 (2015) had the representative voice of heritage reconstruction, as he stated:

If we have full fund, Patan is not much affected, we can finish within three years. Kathmandu is much damaged; it takes more time. Not much is affected in Bhaktapur too. Houses are gone but not many monuments. I say, they will be made in 2-3 years. At least 7-9 years will take in Kathmandu, if they want to make them as they were in the past.

Earthquake Has Magnified Community Heritage Concerns: Recently, following the 2006 people's movement, 'identity' became an important issue among indigenous communities in Nepal, including Kathmandu's Newar communities. KI 28 (2015) mentioned that the "Jyapu Samaj [Newar community] began managing the chariot pulling procession, Sina Swan Khala did the same in Kathmandu; each Khala/groups upgraded their *jatras*. A sense of cultural revival has taken a hold among the Newar communities of Kathmandu. As the continuity of intangible cultural practices was in question in the immediate aftermath of the earthquake, feelings of not being able to perform these practices made Newars more conscious of them. The difficulty and inability to perform *jatras* and celebrations as usual worked as powerful lessons to remind the communities of the significance of their tradition. KI 25 (2015) expressed such positive understanding as:

Rather than losing, we become more conscious of the things which appear uneasy to us. It increases awareness. If you are not able to pull *Kumari's* chariot, this generation will remember it as the consequence of earthquake in 2015. It further makes them curious to participate in the *jatra* next year. It will add their love of culture and heritage. Many lost their family and/or house in the earthquake but their love of heritage is enhanced. Public is very curious to know when the Kasthamandapa will be made. They are putting pressure on the government.

Publicity About Nepal due to the Earthquake: Many informants took the suffering as transitory and hoped for a better future. Immediately after the earthquake, international print and visual media were full of images of Kathmandu's heritage monuments in their pre and post-earthquake status. Reporters directly reported from Kathmandu eulogizing the historical significance of the

heritage losses. The scale of publicity about the heritage monuments around the world was unprecedented, even though it was primarily related to the earthquake destruction. Informants commented that, for good or bad, the international community knew about Nepal. This disaster-related publicity of Nepal was suggested by one informant to be a “sort of blessing in disguise due to the earthquake” (KI 6, 2015). The earthquake in itself was inauspicious but a message that there is a country called Nepal where Buddha was born, where Mount Everest lies, and where many cultural and historical heritage remains, was also spread simultaneously (KI 4, 2015). Similarly, KI 5 (2015) remembered how the football club Real Madrid remembered Nepal after the earthquake:

We should cash in on it. In their match in Barcelona, the Real Madrid team remembered us. When they won, they waved Nepal's flag. Publicity has been great. Those who loved Nepal should be included in our reconstruction. We are not saddened, it is transitory. In the long run it does us good.

Although it was not desirable, informants believed that the publicity Nepal and its heritage received globally will eventually be good for Nepal's tourism. It will help market Nepal to prospective visitors. A time will certainly come to show the advantage of the earthquake (KI 6, 2015). As for tourism, informants were hopeful that it would recover in about a year post-earthquake. “It will pick up by next year”, “more than 60% will revive by the next season”, “by next year, it will pick up”, “when *Gai Jatra* comes, tourists may come” were some hopeful expressions about the revival of tourism at Durbar squares particularly and in Nepal generally.



Figure 21: Tourists feeding pigeons (left) and taking photo with a local Newar holding Nepalese flag at Hanumandhoka Durbar square after the earthquake. Photos: Author

Informants were hopeful that the visitors who have already been to these places will be among the first to come again. These repeat visitors will have memories that will worry them about the plight of the monuments and festivals that they had observed and touched. Informants suggested this sensitivity will work as the pull factor and tourists will start visiting the sites from the next season. Some were optimistic that the true love that tourists have for the heritage will work as a powerful driving force. Their fascination with the place, their feelings of being in Shangri-La, and positive perception about Nepal among western countries will bring tourists to Nepal, according to some informants. KI 2 (2015) added comments about the ‘mystery’ that brings tourists to Kathmandu:

[Thomas] Richards wrote, after the Shangri-La of Tibet was gone Kathmandu became the surrogate Shangri-La. Tourists came here. . . There was a news on BBC, "It has become a desert. It is entirely swept by the avalanche. Such a beautiful country. Such a beautiful valley," it said. People are gone, it is swept but they say it a beautiful valley. It says a beautiful challenge. Yes, that challenge keeps on bringing people here.

4.4 Summary of the findings

The chapter presented the research findings in line with the study objectives presented in chapter one, especially focusing on communities' SOP and perceptions of resilience, and their perspective concerning cultural heritage renewal following the earthquake. Interviews with local people, fieldwork in the study area and, analysis of various secondary sources revealed that Kathmandu's Durbar squares are very significant in the lives of local residents. Living in the historical, cultural, and spiritual ambience of the heritage sites, local residents have formed inextricable relations with the place that has significant influence over their lives. Their settlement in clusters, local beliefs and values, communal observation of rituals and festivals, as well as pride and identity associated with the heritage, provided them strength to confront the catastrophe posed by the earthquake. The way they responded to the disaster was the result of their SOP. Therefore, the resident communities of Durbar squares perceived themselves as resilient.

Historically, culturally, and spiritually the Newars of Kathmandu have roots dating back to thousands of years when their ancestors cultivated good manners, built temples, palaces and other structures, and continued cultural and religious functions around them. The significance of Durbar squares lies in their representation of tangible and intangible cultural heritage of Kathmandu's Newar communities. They bear personal, community, and national identities. Over hundreds of years, these Durbar squares have carried the mainstream culture of Kathmandu and have remained the "heartbeat" of Newari and Nepalese communities. They lived their entire lives around Durbar square, knowingly or unknowingly local people have inextricable relations with the place as that of nail and flesh.

Newari settlement style, existing in Kathmandu for centuries, has shaped their lifestyle accordingly that requires harmonious social participation in all rites and performances. Therefore, from small kids to older people, everyone is familiar with each other and are guided by their proud traditional beliefs and thoughts. Such connectivity is clearly reflected in their social and cultural behaviors such as going to temples, praying, conducting hymns or *guthis* to all kind of rituals with high level of cooperation from each other. Similarly, life in the community is shaped and guided by the cultural and religious practices. Festivals are like seasonal calendars that have taken people forward. If such things exist, life goes ahead and in their absence, people feel incomplete and lonely.

Durbar squares are the centers of religious and spiritual power for local communities. The temples of highest deities are replicated in Durbar squares where people offer flowers and fruits, pray, and prostrate on a daily basis. To please their deities, local people perform good practices of celebrating festivals, rituals and rites for harmonious and prosperous life.

Economically, Durbar squares were significant for local businesses and also for trans-Himalayan trade in the past, and they are equally significant now. In more recent times, Durbar squares' economic significance is associated with tourism. Local hotels, souvenir shops, guides, tour operators, taxi drivers, and vendors among others directly rely on tourists for earning their livelihoods. Alongside, indirect benefit that spills over to people who are not involved in tourism is equally important. The entry fee levied from foreign visitors is utilized for heritage conservation and community welfare activities.

Destruction of ancient cultural heritage monuments at Durbar squares caused a deep loss of place among the local communities. When many monuments turned into rubble, people felt as if the part of their own body was gone. Some felt similar to the loss of their guardian figures. The erstwhile beautiful place looked like desert or an unknown place. When local people could not perform their daily worships and rituals, they felt robbed off of their intimate connection with the place.

Kathmandu's communities got promptly united to retrieve significant artifacts from the debris of heritage monuments as soon as the earthquake felled them. They safeguarded the premises, salvaged useful artifacts and safely inventoried them for future reconstruction. Then they began community consultation about the process and modality of heritage reconstruction although the scale of destruction was far beyond the capacity of the communities to address adequately. Majority of informants stressed that community members suggested disaster-resistant reconstruction of heritage monuments, as they preferred a blend of modern and traditional techniques. Recent renovations in Durbar squares have begun incorporating such techniques.

Informants also stressed that the earthquake enhanced their heritage concern, and they remained hopeful and looked forward to the new opportunities. Earthquake positively aroused significance of the heritage and its meaning for the communities. Those who were not aware of it realized the role of the heritage in their lives and got inspired, especially the younger generation. Informants were confident that they had enough skilled artisans who could make the structures in their exact previous form. As for the fund, which may be required in millions of dollars, they believed the

heritage sites can self-sustain if the money generated from tourism was utilized primarily for heritage renewal. Furthermore, communities took the earthquake as a warning, but also saw it as an opportunity to rebuild and renew. They took the tragedy as transitory and hoped for better future of artistically, culturally, and historically prosperous Nepal. Although, it was for natural disaster, earthquake made a huge publicity of Nepal's natural and cultural tourism potential.

Based on the findings, it appears that the community in question, as represented by the key informants, perceive themselves to be resilient. Their perception of resilience is facilitated by their identity and attachment, which are the key constructs of SOP. Kathmandu's Newar communities, and Nepalese in general, view this earthquake as one of the disasters that have led to a cycle of destruction/reconstruction of the monuments in the last 800 years since the recorded history of earthquakes in Nepal. The following chapter discusses these findings in line with the literature reviewed in chapter Two.

CHAPTER FIVE: DISCUSSION

Following the 2015 earthquake in Nepal, the study explored perceptions of community resilience among the local residents living in the vicinity of the UNESCO world heritage sites of Kathmandu based on these resident's SOP. The study also explored the effects of the earthquake on Kathmandu's cultural heritage and associated meanings of place and identity loss as well as local perceptions on heritage renewal. Community resilience is a multidimensional concept and has been applied to various meanings and interpretations such as livelihood, education, psychology, infrastructure, economy, and so on. This study explored cultural aspects of resilience based on people's SOP and associated identity and attachment with their tangible and intangible heritage that is disrupted by the earthquake. Of the seven UNESCO sites in Kathmandu, the study focused on three ancient palace squares that are instrumental in shaping the lives and culture of indigenous Newar communities living in their vicinity. The results presented in the previous chapter indicated that the palace squares of Kathmandu have historical, cultural, spiritual, and economic significance which collectively formed strong SOP for these communities. When the earthquake destroyed significant heritage monuments and affected associated intangible heritage, it is their SOP that remained instrumental in enhancing community resilience to disaster. However, it is argued that the meaning derived in the study is influenced by a constructionist worldview of the study informants and that of the researcher. As such, the construction of meaning in the study is colored by the social, cultural, and historical experiences of those involved in the study. This chapter discusses how the results fit into broader literature and research gap identified in chapter two.

According to Alexander (2013), the current fashionable concept of resilience is multi-faceted, “adaptable to various uses and contexts” (p. 2714), and “can be used with varied degrees of formality and meaning” (p. 2713). Resilience also involves serious conflicts and contradictions among the researchers (Alexander, 2013) because they have manipulated it “with their own disciplinary predilections” to color the results (Rogers, 2015, p. 55). Most of the resilience study in the past was “examined through proxy indicators, such as institutional change and economic structure and through demographic change” (Adger, 200, p. 354). While Berks and Ross (2013, p. 17) explicitly pronounced, “[w]e know about sense of place, formation of social identity, and stewardship, but we don’t know their significance for community resilience,” Cox and Perry (2011, p. 395) stressed that “[r]arer still is scholarship addressing . . . community resiliency and place within the context of disaster.” This study aimed to fill this gap by exploring the role of SOP to examine resilience among indigenous Newar communities living in the vicinity of UNESCO world heritage sites of Kathmandu after the 2015 earthquake. As such, it was necessary to contextualize the concept of resilience suitable for the research problem. Following Berks and Ross (2013), this study employed an integrative approach to probe into community resilience with the fusion of two strands of community resilience, resilience in social-ecological systems and resilience in psychology of development and mental health. This integration was necessary because resilience among the communities of UNESCO heritage sites in Kathmandu after the earthquake depended more on historical, social, cultural, spiritual, and economic factors rather than natural resources to assist them to rise from the rubble and to have a positive outlook for the future of their heritage. While ideas such as “renewal”, “memory”, and “opportunity” were borrowed from social-ecological resilience, other ideas such as “people-place connections,

values and beliefs, knowledge and learning, social networks,” and “outlook” (Berks & Ross, 2013, p. 5) were taken from the latter strand to investigate the unique case of Kathmandu.

According to Kirmayer et al. (2009), community resilience can be interpreted in two ways: One that looks at how the communities overcome the challenges by drawing from the cultural resources, and another that considers the ways in which communities become resilient by restoring their functioning. Study informants’ perspectives showed that communities in Kathmandu exhibited both possibilities in that their perceived resilience drew upon strong SOP associated with their heritage as they attempted to revive from the disaster.

After the spectacular destruction of ancient heritage monuments that identify Nepal’s cultural image in the world, Kai Weise (2015, para. 1), the consultant and advisor for the UNESCO office in Kathmandu, wrote on the role of community resilience for the survival of cultural heritage in Kathmandu:

The very first images of the 25 April earthquake circulating on social media in Nepal were of monuments in the Kathmandu Valley, many of which collapsed spectacularly in the violent tremors. Subsequent information reflected the enormous human tragedy, but also made clear that the loss of heritage is more than just the structural failure of historic buildings. Most monuments in Nepal are an integral part of people’s living culture and the survival of this relationship will depend on the resilience of the people.

Following the earthquake, local people around the Durbar squares immediately moved in to secure and rescue the artifacts that were damaged. Their action was almost natural, as if that was

the right and the most appropriate thing to do at that moment. While rescue of people trapped in the earthquake was ongoing, it was almost an instantaneous reaction on the part of local residents to be concerned about the safety and protection of the artifacts. The residents knew if those artifacts were not retrieved and secured from the pile of rubble, they could be stolen or permanently damaged, and could hamper reconstruction efforts in the future. It is argued that the primary motivation to engage in heritage rescue even when the disaster risk was still present was driven by the sense of imminent loss in the absence of citizen action. The heritage landscape of Durbar square meant so much to local communities that their actions represented attempts to secure a culture, history, pride, identity, and even source of livelihood. Many who volunteered to act did so without worrying much about their own family situation, personal injury, or immediate concerns about food and shelter and other pressing needs. These community members felt proud to have personally contributed in the preservation of the artifacts, the responsibility they bore as patrons of the heritage sites. They constantly remained vigilant and thoughtful about the restoration of the heritage. When the heritage sites were cleared of the debris and life in the community began to normalize, they began interacting among themselves about the reconstruction of the heritage monuments. While the elders congregated for construction modality, the youths began raising public awareness for heritage revival through arts and songs. It was their identity and attachment associated with the place that inspired the communities to salvage the affected heritage monuments and plan for their renewal.

According to the informants, communities were also deeply concerned about the intangible heritage associated with Durbar Square. With the destruction of heritage monuments, people's usual connection to the place was disrupted because they could not continue their casual

activities or perform their regular prayers and cultural observations during the ongoing catastrophe. They couldn't complete Machhindranath chariot procession and other major festivals such as *Matiya*, *Bhimshen Jatra*, and *Krishna Ashtami* were imminent. It was risky to drive processions through the narrow streets because many temples and palaces were supported with wooden poles so as to prevent them from falling or disintegrating. It is this difficulty that made the communities realise the significance of their intangible culture because their emotional relation with the culture, deities, and temples was still alive. The inability to give usual continuity to the age-old traditions, rituals, and festivals in usual grandeur remained as a powerful lesson which kept pressing the residents to resume their intangible functions although the physical place that was the center of their performance was damaged. The affection and emotional relation with the culture, temples, and deities provided the communities with positive vibes to keep the heritage alive. According to Walsh (2007) communities' belief systems rooted in their cultural and spiritual traditions influences them for positive responses after the disaster. For this reason, communities believed that their intangible heritage will resume sooner before the reconstruction of the monuments because these communities proudly remember that their intangible culture has never been discontinued in history despite frequent earthquakes in Nepal. Such feelings based on their age-old cultural and spiritual practices, as well as their associated values and beliefs, contributed to perceived community resilience. This finding is similar to what facilitated community disaster resilience in Taiwan. Communities' indigenous Hakka Spirit, the spirituality associated with their lifestyle (a set of cultural beliefs, history of ancestry, and the essence of unique culture that evolved over time) among the Taiwanese people was the principal quality that significantly influenced community resilience after the 1999 earthquake (Chen, 2005).

Another strong indicator of perceived resilience among the resident communities in Kathmandu was their outlook for earthquake-resistant heritage reconstruction. While being aware about the preservation of authenticity, a vast majority of residents were serious about meaningful yet adaptive disaster-resistant reconstruction. The common consensus among the communities was that the reconstruction had to be stronger in authentic Nepali style and affordable at the same time. Historically, communities are aware that earthquake is a frequent phenomenon in Nepal. Citing the strength of Nyatapola in Bhaktapur that survived all the earthquakes including the present one since 1702, some informants believed that traditional Newari technology was earthquake resistant and no external engineering technology is required to make the monuments stronger. However, they didn't oppose the opinion of adding structural reinforcements inwardly to the existing ones and adding steel belts or similar ones for new constructions if they could resist 8-10 Richter Scale earthquakes in future.

The majority of the key informants, however, argued that structural strength of the monuments should be the primary focus because, with the help of modern engineering, it can be made invisible keeping the outer appearance intact. Made centuries ago when modern earthquake resistant technology was not available, the KIs believed the monuments were built in a style which may have left them more vulnerable. Therefore, communities now wanted to blend traditional wisdom with modern technology so that they wouldn't have to lose billions of Nepalese rupees of investment in the next disaster, and still preserve traditional Newari architecture. One informant who had seen how the Japanese have preserved their heritage monuments in that earthquake-prone country stressed that modern technology doesn't destroy

traditional technology but rather complements it. In fact, this practice has been in use recently in Kathmandu in the recent renovation projects of KVPT in Patan, and a German project in Bhaktapur. All the structures that these projects had renovated recently were not affected in the earthquake. Although all the informants were not aware of this recent phenomenon that strengthened the structures inwardly, they cited these successful works as replicable examples in future reconstruction. Such awareness among the communities exhibited their strong desire to remain above vulnerability. This rational choice of the communities reflects the bounce forward concept recently used in the context of community resilience.

According to Manyena et al. (2011) the bounce forward concept in disaster resilience liberates resilience from vulnerability because it can assist communities in continuity and recovery planning providing optimistic psychology. The bounce forward concept assumes that post-disaster changes “are a result of rational choices made by the affected communities and should be transformative” because disaster resilience is the result of “the intrinsic capacity of a system, community or society predisposed to a shock or stress to “bounce forward” and adapt in order to survive by changing its non-essential attributes and rebuilding itself” (Manyena et al. p. 419). Transformability in the context of disaster resilience refers to communities’ revival into “new development trajectories” (Folke et al., 2010, p. 1). Many informants suggested that future reconstruction of heritage monuments should incorporate the latest strengthening technologies, while maintaining their Newari authenticity in appearance for their long life. Informants also hoped that UNESCO would adapt its reconstruction rules and regulations to accommodate the challenges faced by the heritage monuments in Kathmandu. This perspective of seeking middle ground between tradition and modern technology remained transformable because the

communities in Kathmandu didn't merely want to respond to challenge by the usual form, but also adapt in better ways to adjust to the new constraints brought by the disaster (Kirmayer et al. 2009). However, it is argued that these communities should remain vigilant of any unintended consequences of incorporating foreign ideas in heritage reconstruction because similar attempts elsewhere have progressively destroyed the local fabric of cultural heritage. For instance, the heritage reconstruction projects of historic areas following 2010 earthquake in Chile restored previous built forms using modern materials and building techniques yet ignored originality (Loustalot, 2013). In this case, not only the earthquake, but also subsequent imprudent reconstruction activities compromised the authenticity of heritage buildings. Communities in Kathmandu should remain critical for such unintended consequences.

The earthquake also worked as a catalyst to magnify Newar people's concern for heritage conservation. As expressed by the informants, Newars had lately been aware of their community identity associated with their heritage due to the uprising in cultural consciousness. When the earthquake suddenly disrupted the usual practices, informants took this setback in a positive light and thought that it further intensified communities' love of heritage. The inability to go to temple or celebrate festivals and *jatras* with usual grandeur powerfully reminded their significance for communities to rebuild heritage. The younger members of the community felt that the catastrophe opened their eyes, as it evoked the significance and meaning of their culture and heritage in their lives that positively inspired them to care for the gifts of their ancestors. They knew that there would be no future without their heritage. Through their cultural memories, they were proud to remember that the history and tradition of intangible culture was never interrupted.

This unbroken continuum and pride filled them with energy to continue the traditional practices which define community identity and attachment.

Furthermore, the earthquake also worked as a catalyst to transfer traditional skills of Newari architecture to new generations. Since no new structures were added in the last 200 years, working in the field of cultural heritage was not an attractive option for the new generation and those still working were not fully engaged in the sector. The earthquake made the residents aware about the need to timely repair the old structures and the urgency to build the damaged monuments. It brought an opportunity to transfer ancient cultural know-how to new generation. It also provided impetus for the continuity of the ancient skill. For those who didn't have the skills and wanted to engage in this field, the newly opened vocational school could provide the opportunity to learn the skills formally. It will fulfill the probable shortages of new artisans in Kathmandu. According to Chen (2005), local smiths can work as the foundation of resilience during heritage reconstruction after disasters because they help in heritage reconstruction and conservation. Artisans and craftsperson in Kathmandu could play a crucial role, contributing in the heritage renewal.

Scholars have stressed that resilient communities should be able to face the consequences of disasters on their own, adapt to the adverse situation, and restore the functions with enhanced capability with minimum or limited external assistance (Castlenden et al., 2011; Manyena, 2006). Study findings indicated that Kathmandu's Newar residents exhibited strong prospects of adaptation rising from disaster with least outside help, primarily because of their values, behaviors, and cultural and spiritual practices exercised living in communal neighborhood from

ancient times. Their cluster form of living inherited from ancestors emphasizes living harmoniously, and helping each other for collective welfare. After the earthquake, local residents remained hopeful that the community spirit and cooperative feelings learned from communal living and collective observation of cultural performances would help them to cope with the loss collectively. Newar communities, by their tradition, share common ground among the households, common shrine to pray and worship, common resources to construct and preserve their heritage monuments, and commonly celebrate their *jatras* and festivals fervently. Such experiences have also helped them to face any adverse situation in communities that have endured recurring tests of disasters throughout their history, and have learnt mechanisms of adaptations through cultural means, thereby creating resilient environments to move ahead (Weise, 2015). Local adaptation strategies, culture, heritage, knowledge and previous experiences remained the building blocks for boosting disaster resilience. Researchers have stressed that locally learned adaptation and adjusting mechanisms, and unique cultural resources, play a key role in enhancing resilience (Berks & Ross, 2013; Kirmayer et al, 2009). Jigyasu (2002, pp. 261-62) accordingly asserted that communities in Kathmandu have the capacity to develop internal solutions in the event of a major natural disaster:

[T]here is a tremendous wealth of local knowledge, skills and capacities, that are embedded both in physical form (spatial planning as well as architecture) as well as social, cultural and economic systems of [communities] in Kathmandu valley, that have potential for mitigation against earthquakes and also contribute towards sustainable recovery from disaster . . . they demonstrate local ingenuity in developing indigenous solutions to face the earthquakes.

According to Walsh (2007) resilience provides new hopes, opportunities, and possibilities that emerge after disaster and strengthens communities to meet future challenges. Likewise, the KIs positively focused on opportunities that the earthquake could possibly bring for economic and tourism rejuvenation. The heritage monuments that the earthquake destroyed had been a major tourist attraction in the country. Tourism that depended on Kathmandu's heritage sites was the main source of livelihood for local communities and those who were not directly associated also took benefit from its spillover benefits. Following the earthquake, Nepal's tourism suffered immensely (Rai & Kaiman, 2015), and it will take some time for tourism in Nepal to revert to the pre-earthquake days. Despite the great loss, informants believed that the earthquake also put in focus the grandeur of these monuments to the outside world, a sort of "blessing in disguise" for Nepal's poor international tourism promotion.

Many informants perceived positive aspects of the disaster, as they looked forward to opportunity for a better future of artistically, culturally, and historically prosperous Nepal. The perceived resilience of KIs allowed them to see what they could do rather than mourn for what they have lost in the earthquake. Informants not only hoped for their prosperous future livelihood but also thought that tourism could be the savior of the destroyed heritage monuments because, according to them, the heritage monuments could self-sustain their reconstruction and maintenance through the money levied from the foreign visitors who visit these sites. Studies on the disaster afflicted tourism destinations such as Bangkok after 2011 flood, New Orleans after hurricane Katrina in 2005, and San Francisco following earthquake in 1989 have found that destinations recovered rapidly, restoring the business to normal in a short period of time with

high degree of resilience (Ghaderi, Mat Som & Henderson, 2015; Droucher, 1994; Milo & Yoder, 1999).

In summary, local communities' identity and attachment with the heritage landscape of Durbar squares is so profound that they have exhibited strong indications and prospects of revival from the 2015 earthquake devastation. Findings suggest the KIs perceived themselves as highly resilient to earthquake-induced destruction, and that the resilience was due to strong identity and attachment associated with their cultural heritage. However, multiple external factors also influence such perceived resilience. Kathmandu is the melting pot for a burgeoning population that is phenomenally growing recently due to unrestricted urbanization, and there is lack of proper state policies to decentralize development activities across the nation. Kathmandu's UNESCO sites were kept on the endangered list from 2003 to 2007, due to the lack of state and local authorities' ability to enforce strict conservation guidelines. Haphazard construction around the UNESCO sites undermined the significance of these sites (Weise, 2015). Although billions of dollars were pledged in the international donors' conference in Kathmandu for the reconstruction of Nepal including the heritage monuments (Nepal Government, 2015), the Nepalese government could not complete the creation of the National Reconstruction Authority until eight months after the devastating earthquake (Pradhan, 2015). A revival of heritage monuments and associated community resilience is also tied to the policies and plans that the national government would implement.

CHAPTER SIX: CONCLUSIONS

Frequent natural disasters have caused huge damage and loss of indigenous cultural heritage around the world. This study aimed to explore resilience through SOP of local communities at Kathmandu's UNESCO world heritage sites, trace how the local communities responded to the destruction caused by the 2015 earthquake, and explore the hopes and aspirations such communities had on heritage reconstruction and renewal. The specific objectives of the study were: 1) To examine the significance of UNESCO heritage sites and their influence on SOP among the resident communities in Kathmandu; 2) to explore the effects of the earthquake on the heritage monuments and community perceptions of the loss; and 3) to explore community capacity to recuperate from the losses, and their perceptions on heritage renewal from the perspective of community resilience. Of the seven UNESCO Heritage sites in Kathmandu, three palace squares of Hanumandhoka, Patan, and Bhaktapur were selected as the study sites. The two-month long fieldwork conducted in the immediate aftermath of the earthquake focused on perspectives of 33 local residents who were involved in semi-structured interviews.

Study findings indicate that the Newar communities of Kathmandu's Durbar squares are unalienably linked with both the tangible and intangible heritage because their heritage monuments and associated cultural and religious practices defined their identity. The monuments that formed part of the Durbar squares were made by their ancestors over hundreds of years. Although the rulership in the past was punctuated by different dynasties, it was the Newar community's ancestors who built those magnificent monuments, reaching to its apogee in the 14th century during the Malla rule. Newars have lived in a closely-knit cluster of settlements sharing common resources, constructing communal vernacular built forms and participating

collectively in their cultural practices. With the construction of great monuments, they initiated spiritual and cultural practices in the form of festivals, dances, rituals, prayers and performances in order to engage communities in creative recreational activities to guide them into good cultural practices. What cultural practices were established centuries ago are carried down to current generation with equal grandeur and glory.

The Durbar squares are also important for economic reasons as they attract a large number of foreign visitors. Many local residents depend on tourism associated with the Durbar squares. The Durbar squares today are central places for local worship and a spiritual way of life, and also serve as important nodal locations for economic activities. In the past, at the national level, these three Durbar squares served as important nodes for the trans-Himalayan trade. Today, the Durbar squares are important tourism locations. Hundreds of foreign tourists visit these places everyday. Many local residents depended on livelihood associated with tourism services, for example, working in the hotel and restaurant sectors, transportation, guiding, souvenir shops, etc. For those who are not directly involved in tourism, municipalities invest money earned from foreign visitors for local development and community welfare. Therefore, Kathmandu's Durbar squares have huge historic, cultural, and economic significance. Consciously or unconsciously, Durbar squares have served as nodal points for performing various religious and cultural festivities that have left defined local community's cultural beliefs and values.

The spectacular destruction of heritage monuments by the earthquake created ripples all around the world. It not only caused the loss of physical structures but also caused a deep loss of identity and attachment people had at local, national and international levels. The resident communities

whose life revolved around the deities and monuments at these historic sites suddenly felt that their place had become a non-place, devoid of its historical grandeur. Local people's cultural, religious and spiritual connection was severed during and immediately after the earthquake. Structural damage of many monuments made the practice of daily visitation and rituals at these sites almost impossible. The phenomenal tragedy at personal and community levels caused troubles in the observation of *jatras*, festivals and other cultural functions. It kept communities in constant fear that if the monuments were not restored, the beauty of the valley, the grace of the Newar communities, and pride and glory of the nation's cultural spirit would remain in jeopardy. However, communities were aware that earthquake was a frequent phenomenon in Nepal, and that history of their tangible and intangible culture is the history of resilience after each devastating earthquake in the past.

Owing to their cultural roots that have remained intact since historical time, informants perceived that communities around the Durbar squares remained resilient because of their deep sense of identity and attachment to the place. Born and raised in the cultural ambience of Durbar squares, local communities were well in tune with their cultural legacy that sustained their hope and positive feelings which they had learnt through living in neighborhood clusters, celebrating their *jatras* and festivals in harmonious participation of whole communities. During the ongoing emergency, they safeguarded the heritage landscape day and night, searched valuable artifacts and safely inventoried them, and even organized interaction programmes at the community level for earthquake-resistant reconstruction of heritage monuments so that they could successfully steward the linkage with the future generations. Their adaptive and transformative, resilient thinking enabled them to seek ways to make the structures stronger to resist future earthquakes.

Communities were confident that their skilled craftsmen would be able to restore the glory of the ancient architecture and continue age-old traditions. They hoped to restore normalcy in their lives and exhibited the strength to cope with future disasters. It is argued that the strong community resilience exhibited in the aftermath of the disaster is enhanced due to a strong individual and community identity and attachment to the place. It should be noted, however, that the perspective presented here is that of the key informants, dominated by well-educated males (see research limitations below).

6.1 Contributions of the Study

The study aimed to contribute to the literature on SOP and community resilience. It added to the existing knowledge of SOP in line with Hay (1998) who found that historical and cultural significance of SOP generates community spirit or community cosmology among the indigenous Maori communities in New Zealand. The values, beliefs, attitudes, and behaviors Newar communities have around UNESCO Heritage sites, especially in the vicinity of Durbar squares, in Kathmandu are shaped by the cultural landscape they have lived for ages (Steele, 1981). The study substantially adds to the small and growing literature on the relationship between SOP and resilience. While studies on disaster resilience are predominantly focused on the development of frameworks for measuring resilience or guidelines for risk reduction, this study focused specifically on the role of historically and culturally nuanced SOP that facilitated proactive community response to the heritage destruction caused by the 2015 earthquake. Therefore, the study addresses the gap that called for the need to consider the role of place, and complex and dynamic cultural factors that concern community psychology associated with place identity and

attachment, as previous studies have poorly specified cultural heritage in studies of disaster community resilience.

As for the applied contribution, the results can be helpful for planners for heritage reconstruction and heritage tourism development in Nepal. Destruction of cultural heritage monuments, temples and stupas in Kathmandu and elsewhere in Nepal, is a crucial reconstruction challenge. Planners can draw upon the community repository to localize heritage reconstruction projects and hand over responsibilities to local communities which are the patrons of their ancestral cultural inheritance. The study found that the Newar communities around Kathmandu's Durbar Squares have an inextricable relationship with their place. Therefore, it is necessary to understand the value of local community engagement for earthquake resistant reconstruction. The findings of the study will also be useful for planners because they can better prepare these communities against future disasters. Besides, UNESCO Heritage Sites are significant tourism resources for Nepal. Findings of the study will also be helpful to devise appropriate tourism recovery strategies as both cultural and natural heritage are important for Nepal's tourism, and tourism can significantly contribute in the reconstruction of the heritage monuments.

6.2 Limitations and Future Research

One of the major shortcomings of this study is that it is a short term snap-shot of prevailing emotional and psychological responses exhibited by the earthquake affected communities around the UNESCO heritage sites in Kathmandu. Community resilience is not best studied through a snapshot of time; it requires a longitudinal time frame so that the phenomenon can be analysed comprehensively. Future studies can build on these findings and evaluate community resilience

broadly. Of the seven UNESCO sites of Kathmandu, this study focused only on three Durbar squares. The remaining four sites—two Buddhist stupas and two Hindu temples-- are single monument zones having different characteristics. Future studies on disaster resilience in Nepal can expand to these sites for comparative analysis. This study exclusively focused on local perceptions of community resilience from the perspective of SOP as it related to the earthquake destruction and disruption of cultural heritage. Future studies can focus on overall economic and physical resilience in Nepal. This study used a convenience and snowball sampling method which resulted in the participation of mostly well-educated male informants and an associated gender bias in the sample. Although I had many advantages of being an insider, the same privilege limited me from widening my informant sample. Also, this study couldn't encompass the perceptions of women and lay persons. Future studies can represent people from a diverse group because the resident community who live in three Durbar square neighbourhoods come from all walks of life. Kathmandu's UNESCO sites are equally important for non-Newars as they are for the local people. Therefore, the study results cannot represent the sentiment of Nepalese in general.

Based on the findings of this exploratory study, the following are some suggested further avenues of study:

- A more scholarly study covering a longer time frame consisting of different stages of the disaster recovery cycle could provide more light on community resilience in the UNESCO world heritage sites of Kathmandu.

- An in-depth study on local identity and the role of indigenous cultural traditions in the formation of such identity could provide further light to substantiate the results of this result.
- Kathmandu is the melting pot of burgeoning explosion of population as the forces of globalization, modern development, and technology are making unrestricted inroads. It has threatened the survival of cluster settlement of Newars. While Newars are more attracted to modern amenities and migrating elsewhere, the remaining oasis of cultural sites are constantly encroached by such trends and communities are growing heterogeneous. An inclusive study on the recent influences and alteration of communities and reorientation of attachment to places can provide a more comprehensive picture.
- This study generalized the resilience perception of three Durbar square residents. The communities around the three Durbar squares, despite being predominantly Newar, have differing religious and spiritual affiliations. While communities of Patan are more influenced by Buddhism and those in Bhaktapur follow Hinduism, they have mixed influence of Hindu and Buddhist practices at Hanumandhoka. A comparative study of the Newar communities of these three sites can further provide the nuanced differences of their perceptions of SOP and associated identity and attachment. It can add more light on how these different communities reacted to the earthquake devastation of the heritage and their level of resilience differently.
- This study focused on the role of SOP to facilitate community resilience. A similar study from the perspectives of social capital adds more understanding to the phenomenon.
- A similar study focusing on women's or lay persons' perceptions of resilience can complement the findings of this study.

6.3 Recommendation for Heritage Reconstruction

Cultural heritage continues its existence and survival by matter of inheritance from the former generation. Current generation learns from the past, and preserves and protects their heritage legacy in order to safely hand it over to future generations, which is the core of its sustainability. Local communities have the legitimacy to provide stewardship in heritage preservation. The study found that the communities of Kathmandu's UNESCO heritage sites have over two millennia of historical and cultural legacy that has created their strong SOP. Intangible cultural and spiritual practices associated with the heritage monuments have further intensified their relation. The history of the heritage sites of Kathmandu is the history of frequent disaster and subsequent resilience of local communities that erected them with enhanced strength and grace each time earthquakes felled them. Once again, following the 2015 earthquake and the spectacular destruction of ancient heritage monuments and its disruption on intangible heritage, local perceptions of resilience have exhibited their knowledge, skills, and capacities to mitigate the disaster rising from the rubble to preserve their valuable heritage. In this context, it is necessary to provide appropriate policies and recommendations for the revival and preservation of Kathmandu's ancient heritage which is also the world heritage and focal point of Nepal's tourism.

There are cases where earthquakes and natural disasters have progressively destroyed the historic fabric of cultural heritage (Jigyasu, 2015; Loustalot, 2013). It is very difficult to revive once people lose their heritage. This study has found, however, that Nepalese communities have the required repository of local knowledge and skills to reconstruct these monuments. The future of local communities depends heavily on the future of their heritage. Therefore, they are constantly vigilant to safeguard the historical artifacts, provide constructive opinions and contributions for the

reconstruction of the monuments. Reconstruction policy makers and planners should remain aware of this local sentiment. Communities should be provided the stewardship of heritage reconstruction so that meaningful recovery can be achieved.

Cultural heritage is as important as natural heritage for Nepal's tourism that substantially contributes to national and local economy. Therefore, while reaping the benefits of entry fees from the foreign visitors, authorities should also think of enhancing the quality of heritage monuments that attract tourists. The results of the study showed that the Durbar squares generate a huge sum of money from the foreign visitors. Despite years of tourism activities, authorities were less concerned for the timely restoration of the monuments, which could have lessened the damage in the earthquake. Tourism shouldn't be a mere money grab; it should be operated responsibly so that the heritage monuments remain appealing and stronger in the future as well. Planners should think about responsible tourism operations which can generate significant amount of funds for heritage reconstruction in Nepal.

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REFERENCES (KEY INFORMANTS)

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- KI 2. (2015, July 11). A retired professor and writer.
- KI 3. (2015, July 12). A conservation architect.
- KI 4. (2015, July 15). A tourism information officer at Durbar square.
- KI 5. (2015, July 12). A handicraft shop owner.
- KI 6. (2015, July 13). An international club executive and tourism entrepreneur.
- KI 7. (2015, July 19). A professor and Durbar square priest.
- KI 8. (2015, July 17). A conservation architect for an INGO.
- KI 9. (2015, August 7). A Newar culture conservationist.
- KI 10. (2015, July 29). A local conservation activist.
- KI 11. (2015, July 9, July 9). A local lodge owner.
- KI 12. (2015, July 10). A social activist.
- KI 13. (2015, August 1). A tourist guide.
- KI 14. (2015, July 13). A professor.
- KI 15. (2015, July 17). A tourist guide and handicraft shop owner.
- KI 16. (2015, July 12). A lawyer.
- KI 17. (2015, August 10). A tourism consultant.
- KI 18. (2015, July 25). A Newari culture and architecture conservationist.
- KI 19. (2015, August 1). A Handicraft salesperson.
- KI 20. (2015, July 8). A handicraft shop owner at Durbar square.
- KI 21. (2015, July 13). A retired government official.
- KI 22. (2015, July 29). A Newar culture conservationist.

- KI 23. (2015, July 27). A tourist guide.
- KI 24. (2015, July 17). A private office accountant.
- KI 25. (2015, August 5). A senior government official.
- KI 26. (2015, July 13). A writer and Newari culture specialist.
- KI 27. (2015, July 10). A tourist guide and local shop owner at Durbar Square.
- KI 28. (2015, July 14). A museum official.
- KI 29. (2015, July 10). A student.
- KI 30. (2015, July 29). A priest at Durbar square.
- KI 31. (2015, July 12). An NGO consultant.
- KI 32. (2015, July 11). A local lodge owner.
- KI 33. (2015, July 29). A convenience store owner at Durbar square.

APPENDIX A: SEMI-STRUCTURED INTERVIEW GUIDE

Basic background information questions (name, age, gender, education, job, involvement in tourism) follow the actual interview.

Lead question 1: How would like to identify and your community in relation with the Durbar Square?

Follow-up questions:

- Tell me about the relationship between the following activities and the heritage of the Durbar Square.
 - Social traditions, cultural rituals, celebrations, festivals, and casual life.
- Tell me about the historical significance of the Durbar Square.
- Tell me about the symbolic/spiritual importance of the cultural monuments.
- Tell me about the economic importance of the cultural heritage of Durbar Square.

Lead question 2: How has the earthquake affected the tangible and intangible heritage of the Durbar Square?

Follow-up questions:

- What has your community lost in the earthquake?
- Tell me about the severity of damage (tangible and intangible) in the (Kathmandu/ Patan/ Bhaktapur) Durbar Square.

Lead question 3: What cultural factors have helped you to cope with the disaster and look into the future?

Follow-up questions:

- Tell me about what the people in your community did after seeing the monuments fallen in the earthquake.
- How has your community thought to renew heritage monuments after the earthquake?
- What personal/social/cultural factors have influenced people's desire to rebuild the monuments?
- Can you tell me how people in your community have thought to reconstruct the destroyed heritage monuments and recover associated intangible practice?
- How long will it take for the reconstruction and how could the budget be managed?
- What will be the role of UNESCO in this context?

Tell me about how you see this place after some years.

CLOSING: Invite informant to ask questions. Clarify any factual errors that occurred during the interview. Thank interviewee for her/his time.

APPENDIX B: INFORMATION LETTER AND CONSEN FORM FOR INFORMANTS

[UW Letterhead]

Date

Dear *(insert participant's name)*:

This letter is an invitation to consider participating in a study I am conducting as part of my Master's degree in the Department of Geography and Environment Management at the University of Waterloo, Ontario, Canada under the supervision of Professor Sanjay Nepal. I would like to provide you with more information about this project and what your involvement would entail if you decide to take part.

The perception of natural disasters by the local witness has provided valuable insights to mitigate the vulnerabilities and implement the measures of resilience over the past years. The destruction of April 25, 2015 earthquake and following aftershocks in Nepal has been very huge. Of particular importance, it has destroyed the ancient heritage monuments preserved in Kathmandu valley over many centuries. The monuments of three palace squares of Kathmandu are very important to the life for local, national and international community. The purpose of this research, therefore, is to study the effects of earthquake among the communities around the three ancient palace squares in Kathmandu. Currently, the study is not funded by any other agency.

The study will focus on the severity of damage done to the heritage monuments and associated loss of meaning and cultural identity by the earthquake. Local people's cultural and every-day life relationship as well these monuments' spiritual/symbolic significance will also be studied. Following the disaster, how the heritage will be reconstructed and how the local communities see the future of tangible and intangible heritage is very important. Therefore, I would like to include your opinions in my study. I believe that your opinions as the resident of the community (for example your cultural relation and your everyday life experience) are very important for the purpose of this study.

Participation in this study is voluntary. It will involve an interview of approximately forty minutes in length to take place in a mutually agreed upon location. You may decline to answer any of the interview questions if you so wish. Further, you may decide to withdraw from this study at any time without any negative consequences by advising the researcher. With your permission, the interview will be audio recorded to facilitate collection of information, and later transcribed for analysis. All information you provide is considered completely confidential. Your name will not appear in any thesis or report resulting from this study, however, with your permission anonymous quotations may be used. Data collected during this study will be retained for five years in a locked cabinet in my supervisor's office at University of Waterloo. Only researchers associated with this project will have access. There are no known or anticipated risks to you as a participant in this study.

If you have any questions regarding this study, or would like additional information to assist you in reaching a decision about participation, please contact me at 977-9841721909 or by email at bpdevkot@uwaterloo.ca. You can also contact my supervisor, Professor Sanjay Nepal at 519-888-4567 ext. 31239 or email snepal@uwaterloo.ca.

I would like to assure you that this study has been reviewed and received ethics clearance through a University of Waterloo Research Ethics Committee. However, the final decision about participation is yours. If you have any comments or concerns resulting from your participation in this study, please contact Dr. Maureen Nummelin in the Office of Research Ethics at 1-519-888-4567, Ext. 36005 or maureen.nummelin@uwaterloo.ca. The collect calls will be accepted and that translators will be employed as necessary if you wish to contact the Office of Research Ethics at University of Waterloo, Ontario, Canada.

I hope that the results of my study will be of benefit to those participants directly involved in the study, other organizations not directly involved in the study, as well as to the broader research community.

I very much look forward to speaking with you and thank you in advance for your assistance in this project.

Yours truly,

Bishnu Devkota
Tourism Policy and Planning (MES)
Department of Geography and Environment Management
University of Waterloo
200 University Avenue West

Waterloo, ON, N2L 3G1, CANADA

Email: bpdevkot@uwaterloo.ca

CONSENT FORM

By signing this consent form, you are not waiving your legal rights or releasing the investigator(s) or involved institution(s) from their legal and professional responsibilities.

I have read the information presented in the information letter about a study being conducted by Bishnu Devkota of the Department of Geography and Environment Management at the

University of Waterloo, Ontario, Canada. I have had the opportunity to ask any questions related to this study, to receive satisfactory answers to my questions, and any additional details I wanted.

I am aware that I have the option of allowing my interview to be audio recorded to ensure an accurate recording of my responses.

I am also aware that excerpts from the interview may be included in the thesis and/or publications to come from this research, with the understanding that the quotations will be anonymous.

I was informed that I may withdraw my consent at any time without penalty by advising the researcher.

This project has been reviewed by, and received ethics clearance through a University of Waterloo Research Ethics Committee. I was informed that if I have any comments or concerns resulting from my participation in this study, I may contact the Director, Office of Research Ethics at 519-888-4567 ext. 36005 and collect calls will be accepted and that translators will be employed as necessary if individuals wish to contact the Office of Research Ethics.

With full knowledge of all foregoing, I agree, of my own free will, to participate in this study.

☐ YES ☐ NO

I agree to have my interview audio recorded.

☐ YES ☐ NO

I agree to the use of anonymous quotations in any thesis or publication that comes of this research.

☐ YES ☐ NO

Participant Name: _____ (Please print)

Participant Signature: _____

Witness Name: _____ (Please print)

Witness Signature: _____

Date: _____

APPENDIX C: THANK YOU LETTER FOR KEY INFORMANTS

UW Letterhead

Date:

Dear:

I would like to thank you for your participation in this study entitled “Revival from Rubble: Community Resilience at UNESCO World Heritage Sites in Kathmandu after May 25, 2015 Earthquake”. As a reminder, the purpose of this exploratory research is to focus on the effects of April 25, 2015 earthquake on the cultural heritage and associated meanings of place and identity loss among the communities of three palace squares which are enlisted in UNESCO World Heritage Site in Kathmandu; the study also attempts to explore local perspectives on the prospects of heritage renewal and tourism revival from the perspective of community resilience.

The information collected during the interview will contribute to the understanding of local residents’ perception of heritage and associated identity with the monuments of the palace squares of Kathmandu. Additionally, it will provide local perspectives to the planners of heritage rebuilding and tourism.

Please remember that any data pertaining to you as an individual participant will be kept confidential. Once all the data are collected and analyzed for this project, I plan sharing this information with research community through seminars, presentations and journal articles. If you are interested in receiving more information regarding the results of this study, or would like the summary of the results, please provide your email address, and when the study is completed, anticipated by April, 2016, I will send you the information. In the meantime, if you have any questions about the study, please do not hesitate to contact me by email or telephone noted below. As with all University of Waterloo projects involving human participants, this project was reviewed by and received ethics clearance through a University of Waterloo Research Ethics Committee. Should you have any comments or concerns resulting from your participation in this study, please contact Dr. Marureen Nummelin, the Director, Office of Research Ethics, at 1-519-888-4567, ext. 36005 to Maureen.nummelin@uwaterloo.ca.

Sincerely,
Bishnu Devkota
University of Waterloo
Department of Geography and Environment Management
Contact phone: 226-972-4138
Email: bpdevkot@uwaterloo.ca

APPENDIX D: CODING SAMPLE

INTERVIEW FOUR

How is your personal connection with this Heritage site? How do you feel when you come here?

As our life and livelihood is associated with the city of Bhaktapur, I am very well acquainted (avyasta) with this city. Living here has been a habit (SOP). A temple has fallen down.

(Destruction) When I come here, *I see something incompatible, something unusual, something difficult.* **(EFFECT)** The heritage of Bhaktapur, private houses, alleys, squares, streets, local inhabitants are all familiar with me. *When something goes wrong, I feel difficult (SOP).*

If you have to go away from this place, what would you feel like missing?

I will not feel like missing as such. Man is a natural being; so he can adjust wherever he goes. I might also undergo similar experience. But, in the present context, some difficulty may initially be there. Remembrance of this place may remain for sometime. It depends upon how busy we can keep our mind.

What is the relation of this site with the culture, rituals, traditions and festivals of this place?

We can classify the festivals, culture, rituals into two parts--those presented for internal and external forms. Generally, when we talk about culture it denotes publicly manifested activities rather than familial things **_DEFINITION**. In this regard, most of the cultural activities that are celebrated in Bhaktapur take place going around major cultural heritage sites. *Gai Jatra, Navadurga Naach or other worships and cultural activities, for instance, go around the Durbar Square area, Taumadi area, Dattatreya area, and Kumale tole. Such activities and the heritage sites are inextricably linked together.* **(FESTIVALS)**

How does a normal/casual life undergo around this Heritage Site?

(Coughs) In the process of social development, society takes its various forms. Bhaktapur city is of Newar community. *The lifestyle of Newar community is different from other communities. Newars prefer to live together in a single community; they like to build their houses in a close cluster. Wherever you go around Nepal, you can say it a Newar settlement when the houses are made in clusters. Other castes or linguistic groups have different/separated settlement style. Therefore, the rites and culture here require social participation. All the social celebrations require people's cooperation, be it "Guthi", festivals or cultural activities. It is necessary to live in a harmony in a closed community. Such is the lifestyle and cultural formation here. Here (coughs), within seven square kilometers live about 85,000*

Newars. **(SETTLEMENT/TRADITION)** Generally, these Newars know each other. From small babies to the aged people, all appear familiar. This is the reason when any younger person gets into bad manners, elders counsel, control, and make them aware and try to improve them.

Therefore, what I feel is, it is like a self-pride for us Newar community. Still our Bhaktapur Newar community has same traditional beliefs and thoughts. Our traditions are unharmed. It is a matter of pride **PRIDE ON CULTURE_RESILIENCE**

I want to go towards the disaster now. Among the communities surrounding this Heritage site, what level/kind of awareness was there about the earthquake?

Hmmm..... for the past 15/20 years, the government of Nepal and the municipality have been celebrating Magh 2nd as the earthquake day. And, each year, after the municipality began operating engineering college, earthquake awareness programs about probable effects/ harms of earthquake are done. In the interval of each 50-100 years, big earthquakes are happening in

Nepal. Therefore, earthquake can occur here at any time. Every year the municipality has been making the communities aware about the precautions to follow during the time of earthquake. The programs include: how to save others and self, what precautions are necessary, how to make our physical structures earthquake proof, what techniques should be implemented, what materials should be used. Still, we could not repair, restore or protect our old houses. Many such houses fell down. And some temples, which had been affected in 1934 quake and restored thereof were not constructed in earthquake resistant manner; they have again fallen down. Apart from that, the temples which the municipality had restored or repaired have remained intact. In this regard, what we can say is that if we keep on restoring and repairing the structures time and again once they are made, our traditional technique can also resist earthquake. It feels that we are not able to pay attention and repair/preserve them in time and they have fallen. EARTHQUAKE AWARENESS/PROGRAMS

Immediately after the quake, attention went to family, relatives, personal houses etc. When you saw some important monuments as rubble on the ground, what did you feel initially? When the earthquake occurred, we two/three of the municipality staffs were working at this counter. When it began shaking, we went at the center of the Durbar Square. With our eyes open, we saw Kedarnath Temple, Vatsala Temple, Silu Mahadev's Phasi Degal, and this White Door collapsing. As you have indicated, we were more concerned about our work place than our family members. We were more panicked, and got confused around here. The earthquake occurred around noon, we stayed here up to two p. m. Till then, the victims of the earthquake and the dead bodies were being taken to the hospital. There were some foreigners here; they were highly scared. We asked them not to get panicked; we beg them to stay calm and tolerant. After convincing them, we managed vehicles and sent them away. Aftershocks continued again and again for an hour. An hour's time after the earthquake was a nightmare. People were not patient. We were at Durbar Square. After about one and half hour (Coughs) when the situation went normal, we searched our family members, after that only. Unfortunately, I was in office, wife was at school, mum was at her parent's house and my only son was at home at that time. We four were at four different places. It took four/five hours for us to come together. After that we got information about many houses fallen flat, many people dead. IMMEDIATE RESPONSE From next day onwards, we staffs of the municipality began working to clear the streets, to avoid and manage the debris of public heritage, and to provide immediate relief and rescue. COMMUNITY RESPONSE

After the disaster, what sort of cooperative feeling did you see in the community members to help provide relief and rescue among each other?

I have told you earlier, the community structure here is interdependent with each other and social. Man himself is a social animal and within it, Newar community is inextricably linked with the society, their daily life is linked with social behavior--like going to temples, praying, conducting hymns, conducting "Guthis" to all kinds of rituals require social cooperation from each other. Therefore, when any accident or natural disaster happens, we help one another. In the same way, we cooperated each other; whole community got mobilized in this earthquake to rescue (coughs), distribute relief materials, and still we are managing it. COOPERATION

In the immediate aftermath, to what extent did you see the community cooperation?

Huge. The community remained as a family at that time. Local community helped each other as a family. In this matter, we assisted each other more than people had expected. We got good cooperation from the community.

Is that existing to this time?

Yes, it is intact.

It is nearly three months after the quake now. During this time how are the people slowly coming back to normal life?

(Coughs...) There are nearly 17000 houses within the municipality. Of them 6000 are totally damaged and 2000 are partially damaged. Altogether, about 8000 houses are affected. Within one and half years, they may be demolished and constructed new. **About 100 heritage buildings are damaged of which 6 temples, doors and public heritage have crumbled. Other heritage monuments also seem to require general repair_TANGIBLE EFFECT.** From 7-8000 houses, 30-40% people are living in camps. Remaining ones are taking shelter at their relatives' houses. To continue their casual life, they have begun to go to work, cultivation, wage labours and jobs. But to come to their previous general state--living at their own house, with their own families, construct their own house---it may take about 8-10 years to build 7-8000 houses. They have slowly begun to feel and bear their personal (earning, supporting families) social, personal, national responsibilities.

As you said earlier, nearly 40% people are living in camps. Two young ladies, who were buried in rubble for six hours after the quake, had come to receive treatment when I reached at a homeopathy clinic. They were being supported by others to walk. Yet they looked happy, talked as normal persons would do. From where does this optimism come in Newari/Nepali community?

What I feel is, man becomes happy when he gets relieved from pains rather than achievement. He becomes happy when the problems are done away. In the same way, local people here are undergoing various difficulties at different time. They experience happiness overcoming these troubles during different times. It may be economic difficulty, social problem, or psychological problem. They continue life fighting with these hurdles; it forms a habit of facing and overcoming these troubles. Even though it hurts for some time, we develop the capacity to resist it. In the same manner, our communities have the strength to encounter any situation and go across it. It provides them with self-trust and positive thought, optimistic thought, in my opinion. **_RESILIENCE**

How deep is the intangible loss in the community due to the earthquake?

(Coughs)**14:45** That has also happened. *We have "Gai Jatra", cultural groups. They have their collective organizations--we call them "Dafa", "Bhajan", or "Sanskritamua". Wherever we keep their offices, their buildings have collapsed, costumes are buried, gurus who teach skills are buried, and practicing halls have collapsed. Some damage has obviously happened. In the coming years, how much can the cultural groups perform and what assistance these groups will need should be analyzed after collecting statistics, _CULTURE/TRADITION* I feel so.

How much is the symbolic/spiritual significance of this Heritage site--in the local, national and international level?

15:43 It is huge. We call our heritage historical, cultural and religious. Historical in the sense that they are many years old--500 to 15/1600 years old temples. History is very, very old. Cultural in

the sense that they are interlinked with the cultural activities and daily life of the local people--with various kinds of prays, festivals are linked with these temples and monuments. Religious in the sense that all the heritage monuments are linked with one or another religion. 16:17 Some are related to Buddhism, some to Hinduism, some to Muslim too. In that sense these heritage monuments are religious, cultural and historical heritages. Besides they are archeological heritage as well. After being 100 years old, they all become of archaeological significance. Our heritages--of this Palace Square, Taumadi Square and Dattatreya area--are of 300-500 years. Therefore, these heritage monuments are of religious, cultural, historical and archaeological significance and they are inextricably linked with the local people. Because of that, they are listed in World Heritage list. Alongside, it is living. Many heritage monuments get built, they become historical and archaeological but they don't become living without being cultural and religious. That heritage doesn't have life. But our heritage has life. Men are linked here. So, the heritage here are living heritage. _SIGNIFICANCE HISTORY CULTURE_

Please describe economic significance of these heritage monuments.

When we analyse its economic value, we cannot imagine now. If we evaluate in current value, it needs 0.5-1 million rupees to construct a strut for a temple. Nyatapola temple (five-storey temple) only has 108 such struts. The works of artistic windows, doors and other carvings are uncountable. If we make monetary evaluation, a single temple costs billions of rupees. 500 years ago, Bhaktapur was a separate kingdom that invested billions of rupees in a single temple.

SIGNIFICANCE it is a matter of miracle to construct such monuments. Therefore, it is a wonder too, a matter of wonder. Like seven wonders, we feel that this is enlisted as World Heritage in the same manner. Kathmandu valley in the past was a lake--historical facts and geological facts prove it. Stone is not available at such place. We have temples here made only of stones. Some single stones weigh 8-10 tons. No machinery equipment, technology was available then. How did they bring here, how they used them is also a matter of wonder. If we look them in this way how it was economically possible to make is one important issue. Now, this heritage made by our ancestors has been medium for earning livelihood for our generation. Hundreds of thousand tourists come to see the heritage in a year. They spend millions of rupees in here and return back. Government receives revenue, local bodies receive service fee and the business persons earn profit. If this all is added, every year, the country earns billions of rupees from tourism. The basis for that is these heritage sites. Looked in this way, these heritage are the basis of tourism and the backbone of the country's economy. Therefore, government of Nepal has planned to reconstruct all the heritage monuments demolished by destructive earthquake within five years. **We feel, this will be done within 1-2 years** _TIME PROJECTION_. In the current budget 91 billion is allocated for heritage conservation.

The government has also announced to establish separate heritage reconstruction fund. But we say, government didn't do as it should have done. Does it indicate something positive? Should we wait for the government only or contribute what we could from our level too? Nepal government has DOA which does conservation works of these heritage monuments. This was our practice in the past. The Government allocates certain budget for it. How much can be done in the whole country, we do accordingly. But, when the municipality began collecting fee from the foreigners and use it for heritage conservation 23 years ago in order to make tourism sustainable, **slowly all the World Heritage sites began collecting service fee for tourists. When**

that money was properly utilised, it was not necessary to wait Nepal government. After that, we became able to conserve our heritage ourselves. And it is being conserved. In the same way, if we can manage the source for these heritage monuments and collect funds, we can conserve ourselves. We can take it as a good example. It began from Bhaktapur and spread to all the heritage sites of Kathmandu valley.

What voice has come up from the local leaders, social organizations, clubs and other stakeholders about the reconstruction of the heritage monuments?

Till now, the leader of local political parties are the ones to bring concept of heritage conservation in Bhaktapur. Mainly, it is Nepal Majdur Kisan Party. The central chairman of Nepal Majdur Kisan Party, Narayan Man Bijukche, has written a book on Bhaktapur, *Bhaktapur after 100 years*. He has envisioned about how the city of Bhaktapur would look like after the conservation of cultural and living heritage. He has envisioned how the city would develop as a tourism destination and a center of knowledge and science. It has moved ahead accordingly. This vision is compatible with the thought of the local people here. Feeling of cooperation exists here. Therefore, whenever the monuments are conserved, local participation is very high. It allows us to accomplish the conservation in lower cost.

How long might it take for the reconstruction to complete?

We think, 5-6 of them which are completely destroyed should be constructed immediately. Others will finish in 2-4 years. General maintenance will also be done quickly. It has to finish in 2-4 years.

Nepal is considered a hot bed of earthquake. The natural and cultural heritage of the country are considered by some as the contribution of the history of earthquake. What do you think?

There is a proverb in Newari: "Mapanka prabhawi mukhu, mathuka mathukaf nhow nirman ji majhu" (Without blocking, water cannot increase its speed). Similarly, new construction cannot be done without demolishing. It doesn't mean we have to demolish. All the building materials have their age, like human beings. We need to reconstruct using new materials when they become old. In this calculation, the earthquake that occurs from 80-100 years resembles with the age of the monuments. Therefore, our ancestors used such construction materials which we can reuse. For example, clay, brick, timber, metal and stone. Mostly, we find they are used in construction. Even if they fall completely, we can reuse them. We don't find cement, concrete, rods were not used then. They cannot be reused again. Therefore, in order to reconstruct our monuments we can use most of the bricks, we can use the solid and undamaged timber again, we can reuse the metal elements of the pinnacles; we find clay nearby which we can be prepared immediately__RECONSTRUCTION/RESILIENCE

As you have suggested, do you mean that only the local materials should be used in reconstruction?

After the earthquake, we conducted workshops twice on how to reconstruct the monuments, took suggestions of the experts from the municipality. According to their suggestion, they should be made in traditional style. But to the extent possible, they should be reconstructed in durable, earthquake resistant way. Such suggestions are received. As an example of the strength of our traditional style, the Nyatapola temple is still standing. It is 108 feet tall and can resist earthquake of 8 Richter scale. That was also made in traditional style. Its wall is bearing all the

weight. Besides, the experts have also suggested that we can include modern technology while using traditional materials. We can go ahead accordingly.

COMMUNITY CONCERNS FOR RECONSTRUCTION TRADITIONAL TESTIMONY

After the earthquake, there are almost no foreign visitors. How or after how long could tourism revive?

(Coughs) After the earthquake many European countries and America announced Nepal as unsafe. In a sense, tourist desiring to come to Nepal didn't receive visa. They banned tourists from coming to Nepal. It takes certain time for an accident or incident to come to normality. It is like healing after the injury. The country is wounded. It takes some time to heal. We should take it as obvious. Within three months, 5-6 countries have announced Nepal safe. For example, America, New Zealand, Britain, China, India, Australia. It slowly spreads everywhere. Earthquake in itself is inauspicious but a message that there is a country called Nepal where Buddha was born, Mount Everest lies, and many cultural, biological and physical diversities exist have spread, though negatively. Tourist arrival will increase because of that also. But, as peace and security is the most important factor of traveling, we can expect tourism to come back to previous state if we can guarantee peace and security for the tourists.

EFFECT HOPE_ AD ABOUT NEPAL

If I have missed to ask related things, can you please summarize it?

I think, it is necessary to give an information to you. After the earthquake, we became active in rescuing and providing relief materials through the municipality. We distributed Rs. 30,000/- as a relief to the families of each person dead within a week from the municipality fund. And, we collected the relief materials provided by Nepal government, transported, and distributed to communities and wards where the victims were living. Nowhere in the municipality did the agencies of Nepal government took away the debris of destruction. But the municipality of Bhaktapur began collecting and transporting to designated area the debris from the beginning, even from private houses to help the victims. Above 30 million rupees is already spent within two months. The municipality has limited source of income and now the tourist entry fee has significantly dwindled. Still, the municipality is collecting the waste, managing the debris. We think, it may take another one year to demolish all the affected houses. Till then, we are committed to minimize expense in other sectors and utilize it in cleaning the city and providing relief to the inhabitants of the municipality.

RESPONSE MUNICIPALITY_ RELIEF. 30:20

Thank You

Glossary

Bahal or Baha: Communal residential spaces of Newar communities in Kathmandu. *Bahals* have shared space among the houses which consists of a common shrine for the residents to pray. It is a very ancient tradition that comes through Lichhabi times.

Bhimshen jatra: A street festival of worshipping Hindu deity Bhimshen (the deity of commerce and good fortune) in Patan. It generally falls in September.

Bisket jatra: Street festival of Bhaktapur celebrated to mark the beginning of Nepali new year (Bikram Sambat). The *jatra* takes place at Bhaktapur Durbar Square. Locals pull a huge chariot of the deity Bhairaba as upper and lower communities (*thane* and *Kone*). A tall pole called “*lingo*” is erected on the chariot which is pulled down to mark the official beginning of new year.

Chowk: One of the royal courtyards surrounded by embellished palaces and temples in the *Durbar* squares of Kathmandu.

Dafa or Raas: Hymns and musical prayers done in the temples. Community members (especially the elderly ones) gather to sing *Dafa* or *Raas* at temples and shrines especially during morning and evening.

Deo che: “Deo” means god and “che” means home. *Deo che* together means homes of gods in local language among Newars in Kathmandu. *Deo che* also refers to the beseech prayers for gods to please them.

Durbar square: The former royal residences of Kathmandu, *Durbar* squares are the complex of ancient palaces, temples, stupas and similar buildings at the heart of Kathmandu, Lalitpur, and Bhaktapur in Kathmandu valley. Designated as UNESCO world heritage sites, they are open theatres to perform *jatras* and festivals, especially from Newar communities.

Gai jatra: “Gai” means cow and “jatra” means street procession. It is Hindu Newars’ festival of remembering the deceased family members during the year. It falls in June-July. During *Gai jatra*, Newars in Nepal decorate human beings as cows and go around the town playing bands of local instruments and dancing.

Geeta: A sacred text of Hindus. It is a part of larger scripture, *Mahabharata*.

Guthi: *Guthi* is a communal organization in Kathmandu’s communities made for upkeep and maintenance of heritage monuments. *Guthis* organize cultural and religious functions. *Guthis* had common land, the produce from which would fund such activities.

Hiti: Traditional and ancient water spouts in the neighborhoods of Kathmandu. Generally, a *Hiti* is sunken in ground and was built as a communal source of water for neighborhood. Although modern techniques of water supply have arrived, there are many *Hities* in Kathmandu that are still in function.

Indra jatra: *Indra jatra* is the biggest street festival of Buddhists and Hindus of Kathmandu, especially of the Newars. It falls in the eleventh month of Newari calendar (September) and is celebrated for eight days. Dancers masked as deities and demons proceed along the old streets of Kathmandu. Hanumandhoka *Durbar* square is the focal point of this jatra. The chariot procession of living goddess of Kathmandu, Kumari, is also launched during Indra jatra. King Gunakamadeva, the founder of Kathmandu, initiated the tradition.

Janko: The festival to celebrate long life of elders among the Newars of Kathmandu. Newars celebrate *janko* when one reaches 80 years.

Jatra: Cultural street festival of Newar communities in Kathmandu. Local people fervently participate in jatras playing local instruments dancing under masks of deities and demons. Jatras undergo certain routes around the cities with *Durbar* square being focal point of demonstration.

Jhingati: Terracotta tiles that are used to form roofs of traditional buildings in Kathmandu, especially by Newar communities.

Karma: A person's fate or destiny. Karma refers to the sum of person's actions in previous, current, and future state of life.

Krishna Ashtami: Krishna janmastami is the annual festival (August-September) to celebrate the birthday of Hindu god Krishna (the 8th incarnation of lord Bishnu).

Matiya: *Matyiya* is for Buddhist Newars of Kathmandu what Gai jatra is for Hindus. To remember their deceased family members Buddhist Newars organize procession along the town to visit significant stupas and Buddhist shrines.

Phaigan: The wind bell kept at the cornices of temples in Nepal. These small bells chime during wind blow and incessantly reverberate the temple premises with their sound creating religious ambience.

Puja: *Puja* is the Nepali term for a religious pray.

Tantric: The process of tantra. Tantra is a Sanskrit term which refers to an ancient tradition of meditation and ritual practices to seek an enlightening unification of divine energy with human energy. Prayers of highest deities such as Taleju in Kathmandu's *Durbar* squares are done through tantric traditions by head priests.

Thane and kone: Considering *Durbar* square as the center, Newar neighborhoods are divided as *thane* and *kone*. *Thane* refers to upper neighborhood and *kone* refers to lower neighborhood. The neighborhoods compete each other to win the stewardship of certain jatras such as Indra jatra or

Tole: *Tole* refers to neighborhood in Nepal. It is very closely tied community of families and relatives.

Torana: Intricately carved images of deities and spirits at the entrance of ancient temples and heritage buildings in Kathmandu, especially at *Durbar* squares.